

BOUND PRONOUNS

by

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Abstract

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The development of the Government and Binding Theory (GB) has led to the establishment of Principles A, B and C which are responsible for the interpretation of reflexives, pronouns and referential-expressions respectively. Much work has already been done on English reflexives and pronouns which depend on other NPs for interpretation as well as the Chinese reflexive, "ziji". Not much work, however, has been done on Chinese pronouns and bound pronouns. For this reason, this thesis is devoted to the study of Chinese pronouns. Works by Higginbotham (1980), Reinhart (1983), Koopman & Sportiche (1982), Lappin (1985), Aoun & Hornstein (1991), Aoun & Li (1990) and Hornstein & Varlokosta (1993) on pronouns are reviewed. Special attention is paid to the Minimal Disjointness Requirements and the Minimality Condition proposed in Aoun & Hornstein (1991) and Aoun & Li (1990, 1993). While their theory attempts to account for the distribution of bound pronouns in Mandarin Chinese, this thesis focuses mainly on Cantonese.

Our findings suggest bound pronouns in Chinese are closely related to referential pronouns and they exhibit similar distribution. The Binding Principle B is found to be valid for both referential and bound pronoun binding. In addition to Principle B, bound pronoun reading is found to be subject to the Bound Pronoun Condition proposed in this thesis. Other factors affecting binding such as quantifier types, verb nature etc., are also discussed.

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摘要

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制約及約束理論的發展制定了用作解釋反身代名詞的原理A、解釋代名詞的原理B及解釋指稱語的原理C。縱然有很多有關英語反身代名詞、代名詞及“自己”這個中文反身代名詞的研究。然而，有關中文代名詞及約束代名詞的研究並不太多。因此，這篇論文會專注研究中文代名詞。論文會就Higginbotham (1980)、Reinhart (1983)、Koopman & Sportiche (1982)、Lappin (1985)、Aoun & Hornstein (1991)及Aoun & Li (1990,1993)作出評論。此外，論文會把注意力放到Aoun & Hornstein (1991)及Aoun & Li (1990,1993)提出的《最小分指條件》(Minimal Disjointness Requirements)及《最小距離條件》(Minimality Condition)。他們的理論嘗試解釋漢語中約束代名詞的分佈，本論文則主要著眼於粵語代名詞。

論文結果表明中文的約束代名詞跟指稱代名詞有密切的關係，兩者並有相似的分佈。在代名詞及約束代名詞的約束上，原理 B的解釋能力獲得肯定。除了原理 B以外，約束代名詞還被證實受制於本論文提出的《約束代名詞條件》(Bound Pronoun Condition)。此外，本論文還就其他如量詞、動詞性質等影響約束的因素作出討論。

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Chapter I Introduction

The past thirty years has witnessed the development of the Government and Binding Theory(GB) in which many different language phenomena have been covered and explained. Among the phenomena concerned, binding has caught much attention of linguists for years and Chomsky has proposed Principles A, B and C to account for the interpretation of reflexives, pronouns and referential-expressions respectively. Apart from Chomsky, many linguists have also conducted a number of researches on binding. Some of them focus on reflexives while others concentrate on pronominals.

As most studies cover the English data primarily, it remains to be seen whether theories so developed can apply to Chinese as well. Lots of efforts have gone to the study of the Chinese reflexive “ziji” which is notorious for exhibiting long distance binding behaviour and other irregularities. These works include Battistella (1989), Huang & Tang (1991), Stillings (1991), Xu (1992), Cole & May (1994), Wang & Xu (1994), etc. Chinese pronouns, on the other hand, have received less attention and only a handful of researches including Aoun & Li (1986b) and Matthews & Yip (1994) have been done on it though much literature on pronominal binding in English can be found.

For this reason, this thesis aims at bridging this gap by devoting to the study of the Chinese pronouns. In this thesis, several proposals on pronominal binding are reviewed and their descriptive adequacy is examined. Some of them are closely related to Chinese while some to English. These include Higginbotham (1980), Reinhart (1983), Koopman & Sportiche (1982), Lappin (1985), Aoun & Hornstein (1991), Aoun & Li (1990) and Hornstein & Varlokosta (1993). Special attention is paid to the Minimal Disjointness Requirements¹ and Minimality Condition proposed in Aoun & Hornstein (1991) and Aoun & Li (1990, 1993). While their theory attempts to account for the distribution of bound pronouns in Mandarin Chinese, this thesis focuses mainly on Cantonese.

To examine the validity of various theories and uncover the distribution of bound pronouns, 10 sets of example sentences are constructed according to different syntactic structures. The findings suggest bound pronouns in Chinese

are closely related to referential pronouns and they exhibit similar distribution. Principle B is found to be valid for both referential and bound pronoun binding. In addition to Principle B, bound pronoun reading is found to be subject to the Bound Pronoun Condition proposed in this thesis.

Pinpointing the problems of a number of proposals, the findings also shed light on the regularities of pronominal binding in the Chinese language. Other factors like quantifier types, verb nature, etc., are also discussed. It is hoped that the results from this thesis will enhance the understanding of Cantonese pronouns and benefit the development of the Chinese syntax under the generative approach.

The thesis is arranged as follows. In Chapter I, we first go through the notions for binding and provide an overview of Chomsky's Binding Theory. Principles A, B and C will be briefly discussed. A summary on selected literature on pronominal binding is given in Chapter II. In Chapter III we discuss the binding facts of pronouns in Chinese, followed by an evaluation of different theories in Chapter IV. Other factors concerning binding are examined in the last chapter.

Now let's see how the interpretation of NPs including pronouns can be captured by the Binding Theory in GB.

1.1. An overview of Chomsky's Binding Theory

The binding theory developed in work published throughout the eighties (1980, 1981, 1982, 1986) by Chomsky is the module of the grammar regulating NP interpretation. Central to the theory are the notions c-command, binding, governing category and subject as summarized below.

C-command(Restricted Version)

A node A c-commands a node B iff

- (i) A does not dominate B;
- (ii) B does not dominate A;
- (iii) the first branching node dominating A also dominates B.

Binding

A binds B iff

- (i) A c-commands B;
- (ii) A and B are co-indexed.

Governing Category

The governing category of A is the minimal domain containing it, its governor and an accessible subject/SUBJECT

Accessible subject/SUBJECT

A is an accessible subject/SUBJECT for B if the co-indexation of A and B does not violate any grammatical principles.

With the above terminology, the Binding Theory can be formulated below.

Principle A

An anaphor must be bound in its governing category. The term anaphor covers reflexives and reciprocals.

Principle B

A pronoun must be free in its governing category.

Principle C

An R-expression must be free everywhere.

The Binding Theory predicts the grammaticality of the following sentences.

- (1) [John_i likes himself_i.] (Principle A)
- (2) [John_i likes him_{i/j}.] (Principle B)
- (3) [John_i likes Martin_{i/j}.] (Principle C)

The brackets indicate the governing categories of the NP concerned. The reflexive "himself" in (1) is bound in its governing category, observing Principle A and "him" can only be free in (2). In (3) the R-expression "Martin" remains free. It is known that the Binding Theory only deals with argument binding (A-binding), i.e. the antecedent is in an argument position which is either a subject or an object position. A'-binding² which has the antecedent in a non-argument position is not within the scope of the theory.

1.2. Referential and Bound pronouns

Like other deictic expressions, pronouns depend on other linguistic expressions for their interpretation. In this thesis, they are classified into two types - *referential pronouns* and *bound pronouns*. A referential pronoun has an NP in an A position as its antecedent. The definition of bound pronouns varies according to different proposals. For the sake of simplicity, bound pronouns are defined below according to A and A' positions.

1.3. Definition of bound pronouns

A bound pronoun is an expression in an A-position bound by a quantificational NP in an A'-position within the latter's quantificational scope at LF

(4) and (5) below illustrate the difference between them, in the intended readings.

(4) Tom_i cut [his_i hand]. (Referential pronouns)

(5) Everyone_i cut [his_i hand]. (Bound pronouns)

Following May (1985), we apply quantifier raising (QR) at the logical form (LF). The LF of (5) in (5') shows that the quantifier phrase "everyone" is in an A' position, with A' binding the pronoun "his".

(5') [_{IP} Everyone_i [_{IP} e_i cut his_i hand]]

The pronoun "his" in (4) is bound by the NP "Tom" in an A position outside its governing category, i.e. the object NP. This complies with principle B of the binding theory which deals with A-binding.

Having reviewed Chomsky's binding theory, we move on to the literature on bound pronouns in the next chapter.

Chapter II Literature on bound pronouns

A number of theories have been proposed to account for the distribution of pronominal binding. To name a few: Higginbotham (1980), Reinhart (1983), Koopman & Sportiche (1982), Lappin (1985), Aoun & Li (1990), Hornstein & Varlokosta (1993). In this chapter, we will briefly go through the literature mentioned. We start with Higginbotham (1980) first.

2.1. Higginbotham (1980)

Higginbotham (1980) has conducted a comprehensive research of binding of pronouns and variables. In his paper, bound variables are defined as *expressions bound by quantificational NPs* within their quantificational scope. Basing his analysis on Chomsky (1980), he has proposed a set of rules and constraints concerning indexing. He assumes every anaphor (i.e. element requiring an antecedent) must be coindexed at surface structure with an element that c-commands it. Under his framework, two distinct mechanisms, namely *coindexing* and *contraindexing* of NP indexing proposed by Chomsky are involved. *Coindexing* relates *anaphoric* elements to their antecedent. *Contraindexing* relates pairs of elements at least one of which is not *anaphoric*. A pronoun coindexed with a variable is itself a variable.

If NP_i and NP_j can be coindexed in a surface structure Σ , then they are purported to be coreferential. On the other hand, if NP_i and NP_j are contraindexed in Σ , then they cannot be purported to be coreferential.

(6) John_i saw himself_i (Coindexing)

(7) John_i saw him_{i/j} (Contraindexing)

Chomsky (1980) assumes that every NP will be assigned its *referential index* and every nonanaphor is doubly indexed, bearing both a referential and an anaphoric index. In this sense, coindexing NP_i and NP_j amounts to assigning them the same referential index. Contraindexing assigns to nonanaphoric NPs (i.e. those not requiring antecedents) *anaphoric indices*³, where an anaphoric index is a set of referential indices.

To explain the coreference between NPs, Higginbotham (1980) introduces three conditions from Chomsky (1980) as cited below – (a) *Condition on*

Condition on coreference

Condition on assignment of anaphoric indices

Under the environment specified below, the anaphoric indices can be removed.

Condition on the deletion of anaphoric indices

If B is a pronoun that is free(i) in the minimal $X=S'$ or NP containing B , and B is either

As stated above, the prerequisite for the application of NIC and OC is that the pronoun should be free.

The application of NIC and OC is shown below in (8) and (9) respectively.

The application of NIC

After removal of the anaphoric index j from the pronoun “he_{i(j)}” in 8 by NIC, he_{i(j)} becomes he_i and (8') results.

(8) [_S John_i thinks [_S **he_i**’s a nice fellow]] (By NIC)

(8') [_S John_i thinks [_{S'} **he_j**'s a nice fellow]]

Applying the reindexing rules which will be discussed in later, “John” and “he” can be coindexed.

The application of OC

In (9), the anaphoric index, *i* of the pronoun “him_{j(i)}” is removed by OC and gives (9’).

(9) John_i wants [_S Mary to visit him_{j(i)}] (By OC)

(9’) John_i wants [_S Mary to visit him_j]

Applying the reindexing rules which will be discussed in later, “John” and “him” can be coindexed.

(10) [John_i saw him_{j(i)}] ~NIC & ~OC

Since “him” in (10) is neither a nominative nor inside the domain of the subject “John”, NIC and OC do not apply and the anaphoric index *i* of him_{j(i)} cannot be removed, leading to contraindexing between “John” and “him”.

Apart from the condition on coindexing and the condition on deletion of indices borrowed from Chomsky (1980), Higginbotham also proposes the following conditions and rules in his proposal.

Reindexing Rule(i)

The formal definition of this rule is not mentioned in Higginbotham(1980). However, according to him, this rule optionally changes the indices of nonanaphoric pronouns and relates Surface Structure to LF. Reindexing Rule is *optional* and *unordered* regarding the rule QR of quantifier construal. By working with other conditions, e.g., NIC, Reindexing Rule can help explain bound pronoun reading in (11).

(11) [_S [_{NP} everyone here]₂ thinks [_S **he**_{3,(2)}’s a nice fellow]]

After index deletion by NIC, the anaphoric index 2 deletes from **he**_{3,(2)} giving **he**₃, as shown in (12).

(12) [_S [_{NP} everyone here]₂ [_S e₂ thinks [_S **he**₃ ’s a nice fellow]]] (Deletion)

Applying Reindexing Rule(i), the index 3 of the pronoun he₃ in (11) is changed to 2 and he₂ in (12’) results.

(12’)[_S [_{NP} everyone here]₂ [_S e₂ thinks [_S **he**₂’s a nice fellow]]] (Reindexing)

A necessary condition to bind a variable

A pronoun can be bound to a quantificational NP only if it could overlap in reference with a referential NP occupying the same position as the quantifier. Sentences (13) and (14) show the relevant mechanism leading to this claim. While binding of the object referential pronoun, "him" by the subject, "He" is rejected in (13), such a binding is allowed in (14).

(13) He_i expected to see him_i. (Referential Pronoun) \Rightarrow (13')

(13') he₂ expected [_s for e₂ self to see him_{3,(2)}]

Assuming the empty category is self-deletion, e₂ refers to the matrix subject, "he". Then the pronoun, "him" is c-commanded by e₂ and is not free. For this reason, Opaque Condition does not apply and the anaphoric index 2 is not removed, leading to contraindexing between the subject, "he" and the object, "him".

The situation is completely different in (14).

(14) He_i expected Bill to see him_i. \Rightarrow (14')

(14') he₂ expected [_s Bill_{3,(2)} to see him_{4,(2,3)}] \Rightarrow (14'')

In the s-structure (14'), the pronoun, "him" is not c-commanded by any NP with referential index of 2 and so it is free⁴, fulfilling the prerequisite for the application of Opaque Condition. Therefore, OC applies and the anaphoric index, 2, deletes from him and (14'') results.

(14'') he₂ expected [_s Bill_{3,(2)} to see him_{4,(3)}] \Rightarrow (14''')

After the change of index by Reindexing Rule(i), "him" can be coreferential with "he", as shown in (14''').

(14''') he₂ expected [_s Bill_{3,(2)} to see **him**_{2,(3)}]

By the same token, the availability of binding in (16) but not in (15) is explained.

(15) Someone_i expected to see him_i. \Rightarrow (15')

(15') Someone₂ expected [_s for e₂ self to see him_{3,(2)}].

(16) Someone_i expected Bill to see him_i. \Rightarrow (16')

(16') Someone₂ expected [Bill_{3,(2)} to see him_{4,(2,3)}] \Rightarrow (16'')

(16'') Someone₂ expected [Bill_{3,(2)} to see him_{4,(3)}] \Rightarrow (16''') (OC)

(16''') Someone₂ expected [Bill_{3,(2)} to see him_{2,(3)}] (Reindexing)

Condition on the Reindexing Rules

This condition ensures that when a pronoun is bound to a quantificational NP, then every anaphor of which it is the antecedent is bound as well.

For all i, j , if pronoun _{i} reindexes as pronoun _{j} , then every occurrence of j in the structure to which reindexing applies is to be replaced by an occurrence of i .

This condition can help explain the impossibility of having both pronouns refer to the quantificational NP, “everyone” in (17) though either of each can refer to the quantificational NP.

(17) Everyone _{i} told someone he _{i} expected to see him _{i} .

The anaphoric indices of the subject pronoun, “he” and the object pronoun, “him” can be removed by applying NIC and OC respectively. In the light of Reindexing Rule(i), either of the pronoun can refer to the QP. Since “he” cannot bind “him”, as illustrated in (13), the two pronouns should have different referential indices and the proposed condition on the reindexing rule ensures all the occurrences of an index be replaced after the application of Reindexing Rule(i) and predicts only either of the pronouns can refer to the QP.

Crossover and Leftness Condition

To explain the crossover, Leftness Condition is introduced in Higginbotham (1980) and defined as below.

Leftness Condition⁵

A variable cannot be the antecedent of a pronoun to its left.

Leftness Condition explains why (18) is correct while (19) and (20) are ruled out.

(18) His _{i} father hates John _{i} .

(19) His _{i} father hates someone _{i} . (Weak Crossover)

(20) Who _{i} does his _{i} father hate? (Weak Crossover)

Higginbotham claims Leftness Condition also applies in Chinese and accounts for the acceptability and unacceptability of (21) and (22) respectively.

(21) Shei _{i} kanjian ta _{i} muqin?⁶

(22) Ta _{i} muchin kanjian shei _{i} ? (Weak Crossover)

Reindexing Rule(ii)

Reindexing Rule(ii) can coindex a pronoun with the index of an empty category to its left, regardless of whether this category is *trace* or *PRO*. It is defined as follows.

In a configuration:

... e_i ... pronoun_j ...

reindex j to i

Like Reindexing Rule(i), it is *optional* and *unordered* regarding the rule QR of quantifier construal. The application of Reindexing Rule(ii) on (23b) explains why the bound pronoun reading is allowed in (23b) but not in (23a).

(23a) Mary's seeing his_i father pleased every boy_i.

In (23a), the structure does not fulfill the application requirement of Reindexing Rule(ii) and so no reindexing takes place. The situation in (23b), however, is completely different.

(23b) Seeing his_i father pleased every boy_i.

The s-structure of (23b), before reindexing is shown in (23b')

(23b') PRO_i Seeing his_i father pleased every boy_i. \Rightarrow (23b'')

After the application of Reindexing Rule(ii), (23b'') results.

(23b'') PRO_i Seeing his_i father pleased every boy_i.

According to Higginbotham, the same applies to Chinese in (24). Assuming there is a *PRO* before the verb, "kan-jian", (24) possesses the structure for the application of the Reindexing Rule(ii).

(24) kan-jian ta_ide muqin rang shei_i dou hen gaoxing.

Leftness, C-command & depth of an empty category

Higginbotham claims that c-command is not necessary for reindexing in English. As shown in (25) where the wh-phrase, "Whose" does not c-command the object pronoun, bound pronoun reading can still be obtained.

(25) Whose_i mother_i loves him_i?

However, such a reading is not allowed in the Chinese sentences (26) and (27) which share the same structure with (25).

(26) Shei_i de mauqin kanjian ta_i le

Who mother see him Mkr

"Whose_i mother saw him_i?"

- (27) Meigeren_i de mauqin dou kanjian ta_i le
 Everyone 's mother all saw him Mkr
 Everyone_i's mother saw him_i.

Crossover Constraint (C-constraint)

Crossover configuration of the structure below is not allowed to be generated at the point of the application of the reindexing rule.

... [_{NP} ... e_i ...]_j ... pronoun_i ... e_j ...

C-constraint can explain the pairs (28)-(29) and (30)-(31)

- (28) Which driver of which millionaire's car was hired by his_i father?
 (29) Which driver of which millionaire's car did his_i father hire?
 (30) Everybody in some city_i hates its_i climate.
 (31) Its_i climate is hated by everybody in some city_i. ⇒ (31')
 (31') It₂'s climate is hated by [everybody in [some city]₄]₃. ⇒ (31'')
 (31'') [some city]₄ [everybody in e₄]₃ it₂'s climate is hated by e₃.

If it₂ is reindexed to it₄, the C-constraint would be violated, explaining (31).
 To explain (32) and (33), the Crossover constraint for Chinese is proposed.

Chinese Crossover Constraint

... [_{NP} ... e_i ...]_j ... pronoun_i ...

- (32) Shei_i de mauqin kanjian ta_i
 Who 's mother see him
 "Whose_i mother saw him_i?"

- (33) Meigeren_i de mauqin dou kanjian ta_i
 Everyone 's mother all see him
 "Everyone_i's mother saw him_i."

In fact, the Chinese Crossover Constraint is a special case of Crossover Constraint in comparison with English, and the binding possibilities in Chinese, therefore, constitute *a proper subset* of the binding possibilities found in English.

Besides the depth of embedding and crossover construction, Chinese pronominals are predicted to have the same distribution as those of English.

2.2. Reinhart (1983)

Reinhart (1983) proposes all pronouns can be interpreted as bound variables⁷, no matter whether they are bound by a quantified NP. Pronouns are subject to the bound anaphora condition. Bound variable reading and coreference are two notions and syntax determines only when a pronoun can be interpreted but not when it can corefer. The structural condition for bound anaphora is c-command.

Coreference and Bound Anaphora

Pronouns linked to a definite NP (or a proper name) can be ambiguous between a referential interpretation and a bound-variable interpretation.

(38) Felix hates his neighbours and so does Max.

The two readings of (38) are represented as (39) and (40) below.

(39) Max hates Felix's neighbours. (1st interpretation)

(40) Max hates Max's neighbours. (2nd interpretation - Sloppy)

The Sloppy reading can be captured by the lambda representation (40') below.

(40') Felix (λx (**x hates x's neighbour**)) & Max (λx (**x hates x's neighbour**))

The 1st reading (39) of (38) is obtained by fixing a referent for the pronoun in the second conjunct, in this case Felix. To get the 2nd reading (40), Reinhart assumes the first conjunct of (38) contains an open formula – (*x hates x's neighbours*) satisfied by "Felix" in the first conjunct and by "Max" in the second. The pronoun is interpreted as a bound variable in this sloppy reading.

Reinhart also notes that whenever the sloppy reading is impossible, the pronoun cannot be anaphoric to a quantified NP. (The bound pronoun has the same distribution with the referential one in sloppy reading.)

(41) Los Angeles is adored by its residents and so is New York. (Sloppy)

(42) Each of the western cities is adored by its residents. (Sloppy)

(43) People from LA adore it and so do people from NY. (Non-Sloppy)

(44) *People from each of the western cities adore it. (Non-Sloppy)

Bound anaphora & Coreference

Taking cases involving sloppy reading, Reinhart (1983) suggests the coreference interpretation of pronouns is not exactly like that of full NPs. A

pronoun coreferring an NP can be interpreted as a bound pronoun while a full NP coreferring with another NP cannot be so interpreted. Sentences containing pronouns can be ambiguous between coreferential and bound pronoun reading. Semanticists maintain a distinction between bound anaphora and coreference, as in Partee (1978), Evans (1980), Lasnik (1976), etc. A Bound anaphora involves two NPs, one of which is translated to a bound variable. Coreference involves NPs sharing the same reference.

Reinhart points out it is impossible to specify conditions on the referential interpretation of *unbound pronouns* within a sentence without facing the problem that such pronouns can corefer freely across sentences. Coreferring pronouns (unbound) are, in fact, interpreted as referential expressions instead of free variables. Once the procedures determining bound-anaphora interpretation are specified, NO sentence-level coreference rules are needed.

The Coindexing Procedure and the Interpretation of Coindexing

Reinhart assumes, under appropriate syntactic conditions, there exists some mechanism in syntax which allows coindexing of pronouns and other NPs. The relevant rules are depicted below. (Reinhart(1983,71))

Coindexing Rule

Coindex a pronoun P with a c-commanding NP α (α not immediately dominated by COMP or S')

Conditions

- (a) *If P is an R-pronoun (Reflexive)⁸, α must be in its minimal governing category.*
- (b) *If P is non-R-pronoun (Pronoun), α must be outside its minimal governing category.*

In the light of coindexing rule, (45)-(46) are explained. The pronoun "his" in (45) and "he" in (46) are not bound in its minimal governing category and according to coindexing rule(b), coindexation between the their antecedents and them are allowed.

(45) Everyone_i upsets his_i neighbours.

(46) Everyone_i thinks that he_i is a genius.

(47) Those who know her_i respect Zelda_i.

(48) Those who know her_i respect no president's wife_i.

As mentioned before, pronouns can be used deictically or referentially. Therefore, while the pronoun *cannot* be interpreted as a bound variable in (47), due to violation of the c-command condition, it may choose its reference from a pragmatically determined set (in this case, the pronoun is used deictically). In (48), the quantified phrase “no president’s wife” is not referential and interpreted as an operator. Being bound by this operator as a variable is the only way the pronoun “her” in (48) can be assigned the same interpretation as the operator. However, since the quantified phrase involves no reference, no coreference is allowed in the sentence. The apparent difference in the anaphora options of quantified NPs and definite NPs is a straightforward consequence of the difference in their semantics.

Pragmatic or accidental coreference is always possible between two referential NPs. Bound anaphora and coreference have different distributions. Non-coreference would result if we avoid the option provided by the grammar, which allows bound pronoun reading in a particular environment. The unacceptability of the intended readings in (49) and (50) is the result of the avoidance of this option.

(49) Zelda_i bores her_i.

(50) He_i thinks that Felix_i is a genius.

The syntactic environment in (49) allows for an R-pronoun(Reflexive) as a bound variable. Non-coreference results, according to Reinhart, if we adopt a non-R-pronoun instead of an R-pronoun. Likewise, (50) is ruled out for comparable reasons. Thus, the distribution of coreference is not in fact governed by an independent condition of the grammar, but follows pragmatically, from the bound anaphora conditions. Non-coreference effects can be obtained in many cases via pragmatic consideration rather than by rules of the grammar, as has been argued by Dowty (1980) and Engdahl (1980).

R-pronouns must be anaphoric. Non-R-pronouns, however, are referentially ambiguous. Speakers are assumed to obey the manner maxim in conversations—be as explicit as the conditions permit. Since a bound anaphora involves

referential dependency, Reinhart regards it as the most explicit way available in the language to express coreference, when syntactically permitted. In the case of an ambiguous sentence containing a non-R-pronouns, it is still the best option that the conditions permit. Two pragmatic strategies are proposed to account for the intended coreference.

Speaker's strategy

When a syntactic structure you are using allows bound-anaphora interpretation, then use it if you intend your expressions to corefer, unless you have some reasons to avoid bound-anaphora.

Hearer's strategy

If the speaker avoids the bound anaphora options provided by the structure he is using, then, unless he has reasons to avoid bound-anaphora, he didn't intend his expressions to corefer.

2.3. Koopman & Sportiche (1982)

In 1985, Koopman & Sportiche propose the Bijection Principle which deals mainly with variable binding. The definition for a variable and Bijection Principle are cited below.

Definition of a Variable

α is a variable iff α is in an A-position and α is locally A'-bound⁹.

Bijection Principle

There is a bijective correspondence between variables and A' position.

The principle requires a one-to-one correspondence between variables and A' position. Working at LF, it can exclude weak crossover construction in (51).

Weak Crossover

(51) His_i mother loves everyone_i.

(51')everyone_i [his_i mother loves e_i]

The LF (51') of (51) shows the operator "everyone" binds both "his" and "e_i". For this reason, binding in (51) is rejected. Although weak crossover can be addressed by the principle, independent assumptions are needed to account for strong crossover constructions.

Strong Crossover

In (52), the pronoun "he" is in A-position and is locally A'-bound. It is, therefore, a variable. However, e_i is A-bound by "he" and cannot be a variable.

(52) Who_i does he_i think you saw e_i

Following Chomsky (1982) which assumes that an empty category which is not a variable is a PRO, Koopman & Sportiche then claim e_i is PRO. The Binding Theory requires PRO be ungoverned, but in (52), PRO is governed. It follows that (52) violates the binding theory and thus ill-formed.

Parasitic Gap

The following parasitic constructions involving pronouns can be ruled out by the Bijection Principle.

(52) Who_i did you give a picture of him_i to e_i ?

(53) Who_i did you give a picture of e_i to him_i?

Obviously the NP "Who" in (52) and (53) bind both "him_i" and " e_i ", violating the principle and thus they are unacceptable.

2.4. Lappin (1985)

Lappin assumes Principles A and B still hold in pronominal binding. To characterize the notion of a bound interpretation of pronoun and to define the syntactic domain for this interpretation, Lappin (1985) proposes a binding chain and binding rules, which apply at s-structure and are stated below.

Binding Chain

The binding chain B is defined as a maximal sequence $(\beta_1, \dots, \beta_n)$, containing A and A' elements, where β_n is in an argument position.

Let α be an NP, P a pronoun.

Condition on binding domain

P is in the binding domain of α iff

(i) α is in argument position in $\beta_1 \in B$ embedded to a depth no greater than X.

(ii) β_n c-commands P.

The level of embedding will vary across languages, allowing parameter setting for different languages. According to Lappin(1985), the value of X for Chinese is 0 and that for English is 1.

Condition of pronominal interpretation

P is interpreted as bound by α iff it receives the semantic interpretations of a variable which ranges over the elements in the extension of α 's N' (in the case of a proper name, the variable ranges over the individual or set of individuals denoted by α).

If P is interpreted as bound by α , then P is in the binding domain of α .

The notion, binding chain, is aimed at binding by non-c-commanding antecedent at s-structure. The condition on binding domain is defined in semantic terms.

As seen in (54) and (55), pronominal binding is ruled out in weak and strong crossover constructions. However, binding by elements from embedded positions is permitted in (56) and (57).

(54) Its_i climate is hated by [everyone in [some city]_i]

(55) [which biography of [which artist]_i] do you think he_i wants to read e_i.

(56) [which portrait of [which writer]_i] [e_i please his_i mother]

(57) [some assistant to [each Member of Parliament]_i] edits his_i speech.

In (54) and (55), β_n = "everyone in some city" and e_i respectively. Obviously, β_n does not c-command the pronoun, excluding binding. In (56) and (57), β_n equals to "e_i" and "Some assistant to each Member of Parliament". They both c-command the pronouns and α is equal to "which writer" and "each member of Parliament" in (56) and (57) respectively. Therefore bound pronoun readings result.

Only pronoun interpretation is covered by the binding condition. Coreference, according to Lappin (1985), is determined independently of the principles of sentence grammar. To cover coreference, Lappin posits a hierarchy of grammatical functions.

Hierarchy of Grammatical Functions for Coreference

This hierarchy specifies the relative centrality of different grammatical functions in relation to the sentence in which they are realized.

- (1) *Subject of the sentence*
- (2) *Direct Object of Verb*
- (3) *Indirect Object of Verb*
- (4) *Oblique Argument of Verb (Adjunct of V')*

Condition on Coreference

If P is referentially dependent on α , then the GF, relative to S , of P is lower than the GF, relative to S , of the phrase in which α is contained.

P is a pronoun, GF a grammatical function, α an NP and S a sentence.

This condition helps rule out coreference in (58) – (60).

- (58) *He_i loves John_i.
(59) *John spoke to her_i about Mary_i.
(60) *Mary looked for him_i in Sam_i's office.
(61) Mary looked for Sam_i in his_i office.
(62) Bill showed the review of her_i book to Mary_i.

In (58), the pronoun "He_i" is a subject which is higher in the hierarchy than "John", making coreference impossible. (59) and (60) are ruled out because the pronoun is in an oblique argument and the antecedents is contained within an oblique phrase. The pronoun in (61) and (62), according to Lappin (1985), do not bear any grammatical functions, so coreference is possible.

2.5. Aoun & Hornstein (1991), Aoun & Li (1990), Aoun & Li (1993)

Since A'-binding is not dealt with by Chomsky's binding theory, a separate account for the bound pronoun interpretation is essential. In response to the need, Aoun & Li (1990) and later Aoun & Hornstein (1991) and Aoun & Li (1993), following the lines of Aoun (1985, 1986a, 1986b), Finer (1985), Hornstein (1984), propose the Minimal Disjointness Requirements and a Minimality Condition for both English and Chinese. Similar disjointness condition is proposed for the bound pronoun "idhio" in Modern Greek in Hornstein & Varlokosta (1993).

Aoun & Hornstein (1991) argue that the binding of pronouns is subject to two requirements, A & A'-Disjointness requirements. Relevant conditions for Chinese are quoted below.

The A-Disjointness requirement for Chinese

A pronoun has to be A-free in the least Complete Functional Complex(CFC) containing this pronoun and its governor.

The A'-Disjointness requirement for Chinese

A pronoun has to be A'-free in the least Complete Functional Complex(CFC) containing this pronoun, its governor and a c-commanding SUBJECT.

In addition to these requirements, two more assumptions have been made. Firstly, following Huang's (1982) claim, Aoun & Hornstein and Aoun & Li assume the AGR in the INFL of Chinese language degenerates and cannot be a SUBJECT. The second assumption made is about the notion CFC. Chomsky (1986) defines CFC "in the sense that all grammatical functions compatible with its head are realized in it." In contexts of predication, subjects are required; thus a CFC has to include a subject in these contexts. In contexts where no predication is held, e.g., in noun phrases, Aoun & Hornstein assume a CFC does not have to include a subject.

Given the requirements and assumptions mentioned above, Aoun & Hornstein succeeded in explaining the binding of the referential and bound pronouns in Mandarin Chinese.

(63) [Zhangsan_i xihuan ta_i]

Zhangsan like him

"Zhangsan_i likes him_i."

(64) [Meiren_i xihuan ta_i]

Nobody like him

"Nobody_i likes him_i."

(65) Zhangsan_i shuo [ta_i yao lai]

Zhangsan say he would come

"Zhangsan_i says that he_i would come."

- (66) [Meiren_i shuo ta_i yao lai]
 Nobody say he would come
 “Nobody_i says that he_i would come.”

The CFC in which the pronoun “ta” has to be free in (63) and (64) is the whole clause in which the pronoun is bound. Therefore (63) and (64) are ungrammatical. The referential pronoun reading in (65) is allowed because the CFC for it is the embedded clause “ta yao lai”. A subject is not needed in contexts where predication is not operative. For this reason, the referential pronoun “ta” is both A-free and A'-free, i.e. not bound by a QP antecedent, in its CFC containing it and the governor. In contrast, a bound pronoun reading is excluded in (66) because the pronoun “ta” is A'-bound in the matrix clause which is the minimal CFC containing a subject.

Aoun & Li (1990, 93) and Aoun & Hornstein (1991) report that the sentence becomes more acceptable when a relevant pronoun is more deeply embedded, as shown in (67) below. The LF (67') shows the pronoun “ta” is not A'-bound in the least CFC containing the subject - IP1.

- (67) meiren_i shuo Lisi xiangxin ta_i hen congming.
 Nobody say Lisi believe he very clever
 “Nobody_i says that Lisi believes he_i is very clever.”

- (67') [_{IP} meiren_i [_{IP} e_i shuo [_{IP1} Lisi xiangxin [ta_i hen congming]]]]

To capture the facts concerning the bound pronouns in Chinese, Aoun & Li (1990) incorporate A'-disjointness requirement with a minimality condition.

The A'-Disjointness Requirement incorporated with Minimality Condition

A pronoun must be free from the MOST LOCAL A' binder in the smallest CFC containing the pronoun and a SUBJECT.

A is the most local A' binder of B iff there is no C such that C is A' binder and A c-commands C, C c-commands B.

Following Huang (1982), Aoun & Li and Aoun & Hornstein assume modals, WH words, negation words and A-not-A words are subject to raising at LF and can be A'-binders. The A'-disjointness requirement predicts the bound pronoun reading is acceptable if the pronoun and the A' antecedent are separated by

another potential A' binder. A number of potential A'-binders and their influences on binding are listed as follows.

Modals

(68) Meigeren_i dou shuo ta_i **hui** de jiang.

everyone all say he will get prize

"Everyone_i says he_i will get the prize."

(68') Meigeren_i [e_i dou shuo [**hui**_i [ta_i e_i de jiang]]]

A-not-A operators

(69) Meigeren_i dou xiang-zhidao **shi-bu-shi** ta_i de-le jiang.

everyone all want-know be-not-be he got prize

"Everyone_i wonders whether he_i got the prize."

(69') Meigeren_i [e_i dou xiang-zhidao [**shi-bu-shi**_i [e_i ta_i de-le jiang]]]

Wh-phrases

(70) Meigeren_i dou xiang-zhidao ta_i **weishenme** de jiang

everyone all want-know he why get prize

"Everyone_i wonders why he_i got the prize."

(70') Meigeren_i [e_i dou xiang-zhidao [**weishenme**_i [e_i ta_i de-le jiang]]]

(71) Meigeren_i dou xiang-zhidao ta_i gen **shei** fen jiangpin

everyone all want-know he with whom share prize

"Everyone_i wonders with whom he_i shared the prize."

(71') Meigeren_i [e_i dou xiang-zhidao [**shei**_i [ta_i gen e_i fen jiangpin]]]

(72) Meigeren_i dou xiang-zhidao ta_i de-le **shenme jiangpin**

everyone all want-know he got what prize

"Everyone_i wonders what prize he_i got."

(72') Meigeren_i [e_i dou xiang-zhidao [**shenme jiangpin**_i [ta_i de-le e_i]]]

Negation

(73a) [Wo **bu** zhidao [meigeren_i dou shuo [ta_i de—le jiang]]]

I not know everyone all say he got prize

"I do not know everyone_i says he_i got the prize."

(73b) [Meigeren_i dou shuo [ta_i zhidao [wo **mei** de—le jiang]]]

everyone all say he know I not got prize
 “Everyone_i says he_i knows I did not get the prize.”

(73c) [Wo zhidao [meigeren_i dou **mei** gaosu renhe ren [ta_i de-le jiang]]

I know everyone all not tell any body he got prize
 “I know everyone_i does not tell anyone_i that he got the prize.”

According to the A'-Disjointness Requirement, it is expected that (c) but not (a) or (b) is well-formed.

(a) *modal/negation/WH word ... QP_i ... pronoun_i

(b) *QP_i ... pronoun_i ... modal/negation/WH word

(c) QP_i ... modal/negation/WH word ... pronoun_i

They claim this is borne out in (73)¹⁰ and (74)

(74a) [Wo **hui** zhidao [Meigeren_i dou shuo [ta_i de jiang]]]

I will know everyone all say he get prize
 “I will know that everyone_i says that he_i got the prize.”

(74b) [Meigeren_i dou shuo [ta_i zhidao [wo **hui** de jiang]]]

everyone all say he know I will get prize
 “Everyone_i says that he_i knows that I will get the prize.”

(74c) [Meigeren_i dou shuo [ta_i **hui** zhidao [wo de jiang]]]

everyone all say he will know I get prize
 “Everyone_i says that he_i will know that I got the prize.”

The examples mentioned concern raising of the bolded elements at LF. The landing sites of them depend on the subcategorization of the predicate. In (75) below, the verb “xiangxin” takes no interrogative complement, i.e, it subcategorizes for a [-wh] COMP. For this reason, “shei” adjoined to the matrix clause, leaving intermediate traces at the LF (75').

(75) [Meigeren_i dou shuo [ta_i xiangxin [**shei** de-le jiang ne]]]

everyone all say he believe who got prize Q-marker

(75') [s₁ shei_i [s₁ meigeren_i [s₁ e_{1i} dou shuo [s₂ e_{2j} [s₂ ta_i xiangxin [s₃ e_{3i} [s₃ e_{4i} de-le jiang ne]]]]]]

The most local A' binder for the pronoun in (75') is the intermediate trace of “shei” in the COMP position of [S'2, e_{2j}]. Since this trace is not coindexed with “shei”, the pronoun “he” is A'-free from its most local A'-binder.

The interpretation of pronouns in English

Aoun & Hornstein claim that bound and referential pronouns in English have the same distribution, although their Chinese counterparts do not. They claimed that the disjointness requirement for English does not take the subject into consideration. Below is the proposed disjointness requirement for English.

The Disjointness requirement for English

A pronoun has to be A-free and A'-free in the least Complete Functional Complex(CFC) containing this pronoun and its governor.

Sentences (76) – (79) show relevant binding patterns for English bound pronouns. Bound pronoun readings in (77) and (78) are rejected since the pronoun is bound in its least CFC containing it and the governor.

(76a) I showed John_i's mother pictures of him_i

(76b) I showed everyone's mother pictures of him_i

(77a) John_i likes him_i.

(77b) No one_i likes him_i.

(78a) John_i believes him_i to be intelligent.

(78b) No one_i believes him_i to be intelligent.

(79a) John_i believes that he_i is a fool.

(79b) No one_i believes that he_i is a fool.

Unlike Chinese, English is relatively rich in inflections and AGR is present in the INFL. It is this AGR which can serve as a big SUBJECT, rendering the minimal CFC in which the pronouns can be free different from that for Chinese. The binding of English pronouns, therefore, deviates from that for Chinese.

Aoun and Hornstein state that to most of the native speakers of English, the distribution of referential and bound pronouns are the same and both (80a) and (80b) are acceptable.

(80a) I showed John_i's mother pictures of him_i

(80b) I showed everyone's mother pictures of him_i

But *some* English speakers, as Aoun & Hornstein put, do distinguish between (80a) and (80b), accepting only (80a). Accordingly, they posit the two disjointness requirements for Chinese do apply to cases like (80) in English.

Despite this, these English speakers make different judgement on the grammaticality of (81a) and (81b).

(81a) Everyone_i's friend likes him_i.

(81b) Meigeren_i de pengyou dou xihuan ta_i.

everyone 's friend all like him

"Everyone_i's friend likes him_i."

Obviously the LF's of them are exactly the same in structure.

(81a') [_{IP} everyone's_i [_{IP} e_i friend [_{VP} likes him_i]]]

(81b') [_{IP} Meigeren_i de [_{IP} e_i pengyou [_{VP} dou xihuan ta_i]]]

The unacceptability of (81b) is expected as the pronoun "ta" is not locally A'-free. However the acceptability of (81a) comes as a surprise. To solve the problem, Aoun & Li (1993) attribute the difference in judgement to the constituency difference between English and Chinese.

The Constituency Difference between English and Chinese

They assume the subject to be base-generated in the SPEC position of a VP. In English, the verb is raised to the INFL by V-movement. The INFL is then lexicalized and L-marks the VP which is then not counted as a barrier. The subject can be raised across the VP, yielding (82).

(82) [_{IP} NP_i [_{IP} I [_{VP} e_i VP]]]

However, the picture is completely different for Chinese. The degenerated nature of the INFL in Chinese prevents V-raising from taking place. As a result, the INFL is not lexicalized and the VP is not L-marked and becomes a barrier. Consequently the subject is hindered from being raised across the VP barrier which blocks the government of the trace by the subject. Then, the base-generated subject remains in-situ and the corresponding LF for (81b) is (81b') as repeated below.

(81b) Meigeren_i de pengyou dou xihuan ta_i.

(81b') [_{IP} Meigeren_i de [_{IP} e_i pengyou [_{VP} dou xihuan ta_i]]]

It is this difference in constituency between Chinese and English that helps explain the grammaticality of (81a) repeated here as (83) which has the constituency structure (82) after subject raising.

(83) Everyone's friend likes him_i.

After subject raising, the s-structure (84) of (83) is obtained.

(84) [_{IP} everyone_i's [_{IP} [_{NP} e_i friend] [_{VP1} e_j [_{VP2} likes him_i]]]]

VP1 is the domain in which the pronoun must be A'-free and e_j is the subject. This pronoun is not bound in the domain VP1. Therefore (83) is well-formed if the structure (84) represents the fact.

Chapter III Binding Facts in Chinese

Before confirming whether the theories introduced in Chapter II can describe and explain pronominal binding in Chinese, let us first examine the binding facts in Chinese and specifically Cantonese. It is believed that bound pronouns and referential pronouns are closely related to each other. We need to consider, therefore, both referential and bound pronouns in order to obtain a clear picture of the binding mechanism of the latter.

The following are the possible positions where a pronoun (either *referential* or *bound*) can occur in a sentence. These by no means capture all the possible sentence patterns containing a pronoun, but they do help gain an insight into the binding patterns of pronouns in Chinese.

Patterns in which the antecedent c-commands the pronoun

Pattern A – Antecedent(A) & Pronouns(P) are clausemates

- (1) A is the subject & P the object
- (2) A is the subject & P the specifier of the object

Pattern B – Antecedent(A) & Pronouns(P) are non-clausemates

- (1) A is the matrix subject & P the embedded clause subject
- (2) A is the matrix subject & P the specifier of the embedded clause subject
- (3) A is the matrix subject & P the embedded clause object
- (4) A is the matrix subject & P the specifier of the embedded clause object

Patterns in which the antecedent does NOT c-command the pronoun

Pattern C – Antecedent(A) & Pronouns(P) are clausemates

- (1) A is the specifier of the subject & P the object
- (2) A is the specifier of the subject & P the specifier of the object

Pattern D – Antecedent(A) & Pronouns(P) are non-clausemates

- (1) A is the specifier of the matrix subject & P the embedded clause subject
- (2) A is the specifier of the matrix subject & P the embedded clause object

In the coming sections, both the distribution of referential pronouns and bound pronouns in each of the above patterns will be covered. For each pattern, referential pronouns come first followed by bound pronouns.

3.1. Patterns in which the antecedent c-commands the pronoun

In this section, we will go through example sentences with Patterns A and B in which the antecedent c-commands the pronoun.

Binding Facts - Pattern A(1) - Referential pronouns¹¹

(A is the matrix subject & P the object)¹²

(85) 小明鐘意佢_i

siuming zung-ji keoi

Siuming like he

"Siuming_i likes him_i."

(86) 張三討厭佢_i

zoengsaam tou-jim keoi

Zoengsaam dislike he

"Zoengsaam_i dislikes him_i."

(87) 王五明白佢_i

wongwu ming-baak keoi

Wongwu understand he

"Wongwu_i understands him_i."

(88) 李四識佢_i

leisei sik keoi

Leisei know he

"Leisei_i knows him_i."

(89) 小新欺騙佢_i

siusai hei-pin keoi

Siusai cheat he

"Siusai_i cheats him_i."

(90) 龍四相信佢_i

lungsei soeng-seon keoi

Lungsei trust he

"Lungsei_i trusts him_i."

Obviously, as depicted in (85)-(90), binding an object pronoun in Cantonese by a full subject NP within the same clause is not allowed. The same distribution is observed for bound pronouns, as shown in (91)-(96).

Binding Facts - Pattern A(1) - Bound pronouns

(A is the matrix subject & P the object)

(91) 每個人都鐘意佢_i

muigojan dou zung-ji keoi

everyone all like he

"Everyone_i likes him_i."

(92) 每個人都討厭佢_i

muigojan dou tou-jim keoi

everyone all dislike he

"Everyone dislikes him_i."

(93) 每個人都明白佢_i

muigojan dou ming-baak keoi

everyone all understand he

"Everyone understands him_i."

(94) 每個人都識佢_i

muigojan dou sik keoi

everyone all know he

"Everyone knows him_i."

(95) 每個人都欺騙佢_i

muigojan dou hei-pin keoi

everyone all cheat he

"Everyone cheats him_i."

(96) 每個人都相信佢_i

muigojan dou soeng-seon keoi

everyone all trust he

"Everyone trusts him_i."

The distribution remains the same even different quantified phrases, e.g., “有人 (jaujan)”, “冇人 (moujan)”, “每個學生 (muigohoksaang)” are used instead. (Readers can verify this by substituting them for “每個人 (muigojan)”) The binding facts show that pronominal binding is impossible in Pattern A(1) in which the potential matrix subject antecedent c-commands the object pronoun.

Binding Facts - Pattern A(2) – Referential pronouns

(A is the subject & P the specifier of the object)

(97) 小明滿意佢間屋嘅裝修

siuming mun-ji keoi gaan uk ge zongsau

Siuming satisfy he ClsR¹³ flat 's decoration

“Siuming_i is satisfied with his_i flat 's decoration.”

(98) 張三討厭佢以前做嘅一切

zoengsaam tou-jim keoi jicin zou ge jatcai

Zoengsaam dislike he past do 's everything

“Zoengsaam_i dislikes all he_i has done in the past.”

(99) 李四出賣左佢嘅朋友

leisei ceot-maai zo keoi ge pangjau

Leisei betray ASP he 's friend

“Leisei_i has betrayed his_i friends.”

(100) 李四變賣左佢間屋

leisei bin-maai zo keoi gaan uk

Leisei sell ASP he ClsR friend

“Leisei_i has sold his_i flat.”

(101) 小新刻意隱瞞佢嘅身世

siusun haakji jan-mun keoi ge sansai

Siusun deliberately conceal he 's past

“Siusun_i conceals his_i past deliberately.”

(102) 小新怕佢老師

siusan paa keoi lousi
Siusan afraid he teacher
"Siusan_i is afraid of his_i teacher."

(103) 美雅仰慕佢老師

meiaa joeng-mok keoi lousi
Meiaa admire she teacher
"Meiaa_i admires her_i teacher."

(104) 小新改變左佢嘅決定

siusan goi-bin zo keoi ge kyutdeng
Siusan change ASP he 's decision
"Siusan_i has changed his_i decision."

(105) 小新愛護佢嘅爸爸

siusan oi-wu keoi ge baabaa
Siusan love he 's father
"Siusan_i loves his_i father."

(106) 小新遇到佢嘅啓蒙老師

siusan jyu dou keoi ge kaimunglousi
Siusan meet Mkr he 's mentor
"Siusan_i has met his_i mentor."

Referential pronoun binding, as in (97)-(106), is possible in Pattern A(2). However, the reflexive "自己(zigei)" can always be an alternative and, in some cases, even a better choice as in (107). It is observed that the pronoun, being an adjunct to the object NP, or classifier phrase, can be dropped without reducing the acceptability of the sentence, as in (108).

(107) 小明好滿意自己間屋嘅裝修

siuming hou munji zigei gaan uk ge zongsau
Siuming very satisfy self ClsR flat 's decoration
"Siuming_i is very satisfied with his_i own flat 's decoration."

(108) 小明好滿意間屋嘅裝修

siuming hou munji gaan uk ge zongsau

Siuming very satisfy ClsR flat 's decoration

"Siuming is very satisfied with the flat 's decoration."

Binding Facts - Pattern A(2) – Bound pronouns

(A is the subject & P the specifier of the object)

As for bound pronoun, the distribution is the same.

(109) 每個新業主都滿意佢間屋嘅裝修

muigo san jipzyu dou hou munji keoi gaan uk ge zongsau

every new landlord all very satisfy he ClsR flat 's decoration

"Every new landlord_i is satisfied with his_i flat 's decoration."

(110) 每個罪犯都討厭佢以前做嘅一切

muigo zeoifaa dou tou-jim keoi jicin zou ge jatcai

every lawbreaker all dislike he past do 's everything

"Every lawbreaker_i dislikes what he_i has done in the past."

(111) 每個道友都出賣左佢嘅朋友

muigo doujau dou ceot-maai zo keoi ge pangjau

every drug-addict all betray ASP he 's friend

"Every drug addict_i has betrayed his_i friend."

(112) 每個賭鬼都變賣左佢間屋

muigojan dougwai dou binmaai zo keoi gaan uk

every gambler all sell ASP he ClsR flat

"Every gambler_i has sold his_i flat."

(113) 每個逃亡者都刻意隱瞞佢嘅身世

muigo toumongze dou haakji jan-mun keoi ge sansai

every fugitive all deliberately conceal he 's past

"Every fugitive_i has concealed his_i past deliberately."

(114) 每個懶學生都怕佢老師

muigo laanhoksaang dou paa keoi lousi
every lazy-student all afraid he teacher
“Every lazy student_i is afraid of his_i teacher.”

(115) 有個學生仰慕佢老師

jaugo hoksaang joeng-mok keoi lousi
A student admire he teacher
“A student_i admires his_i admires teacher.”

(116) 每個善變者都改變佢嘅決定

muigo sinbinze dou goi-bin zo keoi ge kyutdeng
every whiffler all change ASP he 's decision
“Every whiffler_i has changed his_i decision.”

(117) 每個人都愛護佢嘅爸爸

muigoyan dou oi-wu keoi ge baabaa
everyone all love he 's father
“Everyone_i loves his_i father.”

(118) 每個偉大哲學家都遇到佢嘅啓蒙老師

muigo waidaai zithokgaa dou jyu dou keoi ge kaimunglousi
every great philosopher all meet Mkr he 's mentor
“Every great philosopher_i has met his_i mentor.”

As QR applies, the pronouns in (109)-(118) are ambiguous between a deictic and a bound variable interpretation. In the latter case, the pronoun is bound by the quantificational NP. Variable binding, therefore, is possible in Pattern A(2). Like the cases with referential pronouns (the one bound by an NP in A-position), the reflexive “自己(zigei)” is a better alternative as in (119). The case for pro-drop is shown in (120)

(119) 每個新業主都滿意自己間屋嘅裝修

muigo san jipzyu dou munji zigei gaan uk ge zongsau
every new landlord all satisfy self ClsR flat 's decoration
“Every new landlord_i is very satisfied with his_i own flat 's decoration.”

(120) 每個新業主都滿意間屋嘅裝修

muigo san jipzyu dou munji gaan uk ge zongsau
every new landlord all satisfy ClsR flat 's decoration
"Every new landlord is very satisfied with the flat 's decoration."

Binding Facts - Pattern B(1) – Referential Pronouns

(A is the matrix subject & P the embedded clause subject)

(121) 小新總司令公佈佢已經成功控制首都秩序

siusan zungsiling gungbou keoi jiging cinggun hung-zai saudo ditzeoi
Siusan commander-in-chief announce he already succeed control capital order
"The commander in chief, Siusan_i announced he_i has already restored the order in
the capital."

(122) 張三承認佢係琴日劫案嘅主謀

zoengsaam singjan keoi hai kamjat gipon ge zyumau
Zoengsaam admit he is yesterday robbery 's mastermind
"Zoengsaam_i admitted he_i was the mastermind of robbery yesterday."

(123) 小新知道佢堅負住重大嘅責任

siusan zi-dou keoi gin-fu zyu cungdaai ge zaakjam
Siusan know he shoulder ASP serious 's responsibility
"Siusan_i knows he_i has a serious responsibility."

(124) 小明講比朋友聽佢買到樓!

siuming gong bei pangjau teng keoi maai dou lau
Siuming tell to friend listen he buy Mkr flat
"Siuming_i told his friends that he_i has bought a flat."

(125) 小明希望佢順利升上中六

siuming hei-mong keoi seonlei sing-soeng zungluk
Siuming hope he easily promote Form 6
"Siuming_i hopes he_i can be easily promoted to Form 6."

(126) 小明同小新講佢已經盡左一切嘅努力

siuming tung siusan gong keoi jiging zeon zo jatcai ge noulik

Siuming with siusan tell he already try-hard ASP all 's effort

爲公司爭取最大嘅利益

wai gungsi caang-ceoi zeoidaai ge leijik

for company fight maximum 's interest

"Siuming_i told Siusan he_i has already tried his best to further the best interest for the company."

(127) 小新透露佢討厭黃經理

siusan tau-lou keoi tou-jim wongginglei

Siusan confide he dislike manager, Wong

"Siusan_i confided that he_i disliked the manager, Wong."

(128) 小明話佢鐘意錢

siuming waa keoi zung-ji cin

Siuming say he love money

"Siuming_i said he_i loved money."

(129) 美國辯稱佢係爲公義而戰

meigwok bin-can keoi hai wai gungji ji zin

USA defend he is for justice to fight

"USA_i defends that she_i fights for the justice."

(130) 小新相信佢比戰爭中的戰俘更幸運

siusan soeng-seon keoi bei zincaang zung dik zinfu gaang hangwan

Siusan think he compare war in 's POW than lucky

"Siusan_i thinks he_i is luckier than the POW."

As shown in (121)-(130), referential pronouns can be bound by the matrix NP subject. Again, as such, reflexives can be used instead, as in (131) and the pronoun which is the embedded clause subject can be dropped, given that Cantonese, similar to Mandarin, is a pro-drop language, as in (132).

(131) 小新總司令公佈自己已經成功控制首都秩序

siusan zungsiling gung-bou zigei jiging cinggun hung-zai saudo ditzeoi
Siusan commander-in-chief announce self already succeed control capital order
“The commander in chief, Siusan_i announces he_i has already restored the order in the capital.”

(132) 小新總司令公佈已經成功控制首都秩序

siusan zungsiling gung-bou jiging cinggun hung-zai saudo ditzeoi
Siusan commander-in-chief announce already succeed control capital order
“The commander in chief, Siusan announces the order is restored in the capital.”

Binding Facts - Pattern B(1) – Bound Pronouns

(A is the matrix subject & P the embedded clause subject)

Similar to referential pronouns, bound pronouns are allowed in (133)-(142) below.

(133) 一個將軍公佈佢已經成功控制首都秩序

jatgo zoenggwan gung-bou keoi jiging cinggun hung-zai saudo ditzeoi
one general announce he already succeed control capital order
“One general_i announces he_i has already restored the order in the capital.”

(134) 一個中年男人承認佢係琴日劫案嘅主謀

jatgok zungnin naamjan singjan keoi hai kamjat gipon ge zyumau
one middle-age man admit he is yesterday robbery's mastermind
“One middle-aged man_i admitted he_i was the mastermind of robbery yesterday.”

(135) 每個警察都知道佢肩負住重大嘅責任

muigo gingcaat duo zi-dou keoi gin-fu zyu cungdaai ge zaakjam
every policeman all know he shoulder ASP serious 's responsibility
“Every policeman_i knows he_i has a serious responsibility.”

(136) 每個人都講比朋友聽佢買到樓!

muigojan dou gong bei pengjau teng keoi maa dou lau
everyone all tell to friend listen he buy Mkr flat
“Everyone_i told his friends that he_i has bought a flat.”

(137) 每個會考生都希望佢順利升上中六

muigojan dou hei-mong keoi seonlei sing-soeng zungluk

everyone all hope he easily promote Form 6

"Everyone_i hopes he_i can be easily promoted to Form 6."

(138) 每個推銷員都同小新講佢已經盡左一切嘅努力

muigo teoisiujyun dou tung siusan gong keoi jiging zeon zo jatcai ge noulik

every salesman all with siusan tell he already try-hard ASP all 's effort

爲公司爭取最大嘅利益

wai gungsi caang-ceoi zeoidaai ge leijik

for company fight maximum 's interest

"Every colleague_i told Siusan he_i has already tried his best to further the best interest for the company."

(139) 每個文員都透露佢討厭黃經理

muigo manjyun dou tau-lou keoi tou-jim wongginglei

every clerk all confide he dislike manager, Wong

"Every clerk_i confided that he_i disliked the manager, Wong."

(140) 每個香港人都話佢鐘意錢

muigo hoenggongjan dou waa keoi zung-ji cin

every Hong-Kong-people all say he love money

"Every Hong Kong people_i said he_i loved money."

(141) 每個參戰國都辯稱佢係公義而戰

muigo caamzingwok dou bin-can keoi hai wai gungji ji zin

every warring-nation all defend he is for justice to fight

"Every warring nation defends that she_i fights for the justice."

(142) 每個成功逃難者都相信佢比戰爭中的戰俘

muigo cinggun tounaanze dou soeng-seon keoi bei zincaang zung dik zinfu

every succeed fugitive all think he compare war in 's POW

更幸運

gaang hangwan

than lucky

"Every fugitive_i thinks he_i is luckier than the POW."

While bound pronoun reading is generally allowed in (133)-(142), deitic interpretation is never excluded. Parallel to examples with referential pronouns in Pattern B(1), bound pronouns can either be dropped or replaced by the reflexive "自己(zigei)".

(143) 一個中年男人承認自己係琴日劫案嘅主謀

jatgo zungnin naamjan singjan zigei hai kamjat gipon ge zyumau
one middle-age man admit self is yesterday robbery's mastermind
"A middle-aged man_i admitted he_i was the mastermind of robbery yesterday."

(144) 一個中年男人承認係琴日劫案嘅主謀

jatgo zungnin naamjan singjan hai kamjat gipon ge zyumau
one middle-age man admit is yesterday robbery's mastermind
"One middle-aged man admitted being the mastermind of robbery yesterday."

Binding Facts - Pattern B(2) – Referential pronouns

(A is the matrix subject & P the specifier of the embedded clause subject)

(145) 張三承認佢嘅設計比小明差

zoengsaam sing-jan keoi ge citgai bei siuming caa
Zoengsaam admit he's design compare Siuming inferior
"Zoengsaam_i admitted his_i design was inferior to Siuming's."

(146) 小新明白佢嘅才能比美國總統克林頓差

siusan ming-baak keoi ge coinang bei meigwok zungtung haaklamdeon caa
Siusan understand he's aptitude compare USA president Clinton inferior
"Siusan_i understands his_i aptitude is inferior to that of the US president, Clinton"

(147) 小明講比小新聽佢嘅計劃已經失敗

siuming gong bei siusan teng keoi ge gaiwaak jiging sat-baai
Siuming tell to Siusan listen he's plan already fail
"Siuming_i told Siusan his_i plan has already failed."

(148) 小明同小新講佢嘅計劃

siuming tung siusan gong keoi ge gaiwaak
Siuming with Siusan tell he's plan

已經將公司嘅利潤推到最高

jiging zoeng gungsi ge leijeon teoi dou zeoigou
already make company 's profit push Mkr highest

"Siuming_i told Siusang his_i plan has already maximized the profit of the company."

(149) 小新知道佢嘅內閣落選左

siusan zi-dou keoi ge noigok lok syun zo
Siusan know he 's cabinet fail election ASP

"Siusan_i knows that his_i cabinet has failed to be re-elected."

(150) 小明希望佢嘅夢想成真

siuming hei-mong keoi ge mungsoeng cingzan
Siuming hope he 's dream come-true

"Siuming_i hopes his_i dream comes true."

(151) 小明相信佢嘅考試成績對前途有影響

siuming soeng-seon keoi ge haausi cingzek deoi cintou jau jenghoeng
Siuming think he 's exam results to prospect have influence

"Siuming_i thinks his_i exam. result will have some influences on his prospects."

(152) 小明埋怨佢嘅利益係今次金融風暴裏被忽視

siuming maai-jyun keoi ge leijik hai gamci gamjung fungbou lei bei fat-si
Siuming complain he 's interest in this financial storm in by disregard.

"Siuming_i complained that his_i interest was sunken in this financial crisis."

(153) 小明深知佢間舖全年嘅利潤

siuming sam-zi keoi gaan pou cyunnin ge leijeon
Siuming know-well he ClsR store whole-year 's profit

完全取決於假期嘅營業額

jyuncyun ceoikyut jyu gaagei ge jingjipngaak
entirely depend on holiday 's turnover

"Siuming_i knows well that the annual profit of his_i store is entirely dependent on the turnover during holidays."

(154) 小明希望佢嘅作品有人欣賞

siuming hei-mong keoi ge zokban jaujan jan-soeng
Siuming hope he 's work have-someone appreciate
"Siuming_i hopes his_i work will be appreciated by someone."

Although the pronoun "佢(keoi)" can refer to the matrix subject in (145)-(154), the reflexive "自己" can often be an alternative. This is shown below. Pro-drop of the [SPEC,NP] of the embedded clause subject is also allowed.

(155) 張三承認自己嘅設計比小明差

zoengsaam sing-jan zigei ge citgai bei siuming caa
Zoengsaam admit self 's design compare Siuming inferior
"Zoengsaam_i admitted his_i own design was inferior to Siuming's."

(156) 張三承認設計比小明差

zoengsaam sing-jan citgai bei siuming caa
Zoengsaam admit design compare Siuming inferior
"Zoengsaam admitted the design was inferior to Siuming's."

Binding Facts - Pattern B(2) – Bound pronouns

(A is the matrix subject & P the specifier of the embedded clause subject)

The distribution of the bound pronouns is similar to referential ones and variable binding are allowed.

(157) 每個參賽者都承認佢嘅設計比小明差

muigo caamcoize dou sing-jan keoi ge citgai bei siuming caa
every candidate all admit he 's design compare Siuming inferior
"Every candidate_i admitted his_i design was inferior to Siuming's."

(158) 每個候選人都明白佢嘅才能

muigo hausyunjan dou ming-baak keoi ge coinang
every candidate all understand he 's aptitude
比美國總統克林頓差
bei meigwok zungtung haaklamdeon caa
compare USA president Clinton inferior
Every candidate_i understands his_i aptitude is inferior to that of the president of USA, Clinton."

(159) 一位董事講比小新聽佢嘅計劃已經失敗

jatwai dungsi gong bei siusan teng keoi ge gaiwaak jiging sat-baai
A director tell to Siusan listen he 's plan already fail
"A director told Siusan his plan has already failed"

(160) 每個計劃草擬人都同小新講佢嘅計劃

muigo gaiwaak coujijan dou tung siusan gong keoi ge gaiwaak
every plan drafter all with Siusan tell he 's plan
已經將公司嘅利潤推到最高
jiging zoeng gungsi ge leijeon teoi dou zeoigou
already make company 's profit push Mkr highest
"Every plan drafter told Siusan his plan has already maximized the profit of the company."

(161) 每個競選落敗者都知道佢嘅內閣落選左

muigo gingsyun laaibaaize dou zi-dou keoi ge noigok lok syun zo
every election loser all know he 's cabinet fail election ASP
"Every loser in the election knows that his cabinet has failed to be re-elected."

(162) 每個人都希望佢嘅夢想成真

muigojan dou hei-mong keoi ge mungsoeng cingzan
everyone all hope he 's dream come-true
"Everyone hopes his dream comes true."

(163) 每個人都相信佢嘅考試成績對前途有影響

muigojan dou soeng-seon keoi ge haausi cingzek deoi cintou jau jenghoeng
everyone all think he 's exam results to prospect have influence
"Everyone thinks his exam result will have some influences on his prospects."

(164) 每個人都埋怨佢嘅利益係今次金融風暴裏被忽視

muigojan dou maai-jyun keoi ge leijik hai gamci gamjung fungbou leoi bei fat-si
everyone all complain he 's interest in this financial storm in by disregard.
"Everyone complained that his interest was sunken in this financial crisis."

(165) 每個人都深知佢間舖全年嘅利潤

muigojan dou sam-zi keoi gaan pou cyunnin ge leijeon
 everyone all know-well he ClsR store whole-year 's profit
 完全取決於假期嘅營業額

jyuncyun ceoikyut jyu gaagei ge jingjipngaak
 entirely depend on holiday 's turnover

"Everyone_i knows well that the annual profit of his_i store is entirely dependent on the turnover during holidays."

(166) 每個人都希望佢嘅作品有人欣賞

muigojan dou heimong keoi ge zokban jaujan jan-soeng
 everyone all hope he 's work have-someone appreciate
 "Everyone_i hopes his_i work will be appreciated by someone."

The reflexive "自己(zigei)" can often be an alternative. Like sentences with referential pronouns, pro-drop, again, poses no problems and the [SPEC,NP] of the subject NP in the embedded clauses above can be left empty.

(167) 每個人都相信自己嘅考試成績對前途有影響

muigojan dou soeng-seon zigei ge haausi cingzek deoi cintou jau jenghoeng
 everyone all think he self 's exam results to prospect have influence
 "Everyone_i thinks his_i own exam. result will have some influences on his prospects."

(168) 每個人都相信考試成績對前途有影響

muigojan dou soeng-seon haausi cingzek deoi cintou jau jenghoeng
 everyone all think he exam results to prospect have influence
 "Everyone_i thinks the exam. result will have some influences on his prospects."

Binding Facts - Pattern B(3) – Referential Pronouns

(A is the matrix subject & P the embedded clause object)

(169) 小明希望小強明白佢

siuming hei-mong siukoeng ming-baak keoi
 Siuming hope Siukoeng understand he
 "Siuming_i hopes Siukoeng_j understands him_i."

(170) 小明希望其他人欣賞佢

siuming hei-mong geitaajan jan-soeng keoi
 Siuming hope others appreciate he

"Siuming_i hopes others appreciate him_i."

(171) 小明擔心考牌官肥佢_i

siuming daam-sam haaupaaigun fei keoi

Siuming worry invigilator fail he

"Siuming_i is worried that the invigilator will disqualify him_i."

(172) 小明埋怨政府係今次金融風暴裏忽視佢_i

siuming maai-jyun zingfu hai gamci gamjung fungbou leoi fat-si keoi

Siuming complain government in this financial storm in disregard he

"Siuming_i complained that the government disregarded him_i in this financial crisis."

(173) 小明深知哩盤生意嘅成敗完全取決於佢_i

siuming sam-zi ' lepun saangji ge cingbaai jyuncyun ceoi-kyut jyu keoi

Siuming know-well this business 's performance entirely depends on he

"Siuming_i knows well that the performance of the business entirely depends on him_i."

(174) 王五知道小強討厭佢_i

wongm ji-dou siukoeng tou-jim keoi

Wongm know Siukoeng dislike he

"Wongm_i knows that Siukoeng dislikes him_i."

(175) 小新透露黃經理排斥佢_i

siusun tau-lou wongjinglei paa-cik keoi

Siusun confide manager, Wong ostracize he

"Siusun_i confided that the manager, Wong has ostracized him_i."

(176) 美雅預料陳先生提升佢_i

meiaa jyu-liu cansinsaang tai-sing keoi

Meiaa expect Mr. Chan promote he

"Meiaa_i expects Mr. Chan to promote him_i."

(177) 首相公佈美國總統邀請佢_i

sauoeng gung-bou meigwok zunttung jiu-ceng keoi

Prime Minister announce USA president invite he

"The Prime Minister announced that the US president has offered him an invitation."

(178) 哩個保守黨議員公佈首相支持佢

lego bousaudong jijyun gung-bou sausoeng zi-ci keoi
this Conservative Party MP announce Prime Minister supported he.

"This MP_i from Conservative Party announced the Prime Minister supported him_i."

The pronoun "佢(keoi)" can be bound by the matrix subject in (169)-(178). Similar distribution is also observed with bound pronouns.

Binding Facts - Pattern B(3) – Bound Pronouns

(A is the matrix subject & P the embedded clause object)

(179) 每個人都希望小強明白佢

muigojan dou hei-mong siukoeng ming-baak keoi
everyone all hope Siukoeng understand he

"Everyone_i hopes Siukoeng understand him_i."

(180) 每個作家都希望其他人欣賞佢

muigo zokgaa dou hei-mong geitaajan jan-soeng keoi
every writer all hope others appreciate he

"Every writer_i hopes others appreciate him_i."

(181) 每個車牌考生都擔心考牌官肥佢

muigo cepaai haausaang dou daam-sam haaupaaigun fei keoi
every driving-liscence examinant all worry invigilator fail he

"Every driving liscence exam examinant_i is worried the invigilator will disqualify him_i."

(182) 每個炒輸股票嘅人都埋怨政府

muigo caau syu gubiu ge jan dou maai-jyun zingfu
every speculate lose security 's person all complain government

係今次金融風暴裏忽視佢

hai gamci gamjung fungbou leoi fat-si keoi
in this financial storm in disregard he

"Every losen_i in securities speculation complained that the government disregarded

him_i in this financial crisis.”

(183) 每個生意人都知哩盤生意嘅成敗完全取決於佢_i

muigo saangjijan dou zi lepun saangji ge cingbaai jyuncyun ceoi-kyut jyu keoi
every businessman all know this business 's performance entirely depend on he
“Every businessman_i knows the performance of the business entirely depends on
him_i.”

(184) 每個同事都知道小強討厭佢_i

muigo tungsi dou zi-dou siukoeng tou-jim keoi
every colleague all know Siukoeng dislike he
“Every colleague_i knows that Siukoeng dislike him_i.”

(185) 每個新同事都透露黃經理排斥佢_i

muigo san tungsi dou tau-lou wongjinglei paai-cik keoi
every new colleague all confide manage, Wong ostracize he
“Every new comer_i confided that the manager, Wong has ostracized him_i.”

(186) 有人預料陳先生提升佢_i

jaujan jyu-liu cansinsaang tai-sing keoi
someone expect Mr. Chan promote he
“Someone_i expects Mr. Chan to promote him_i.”

(187) 每個北約盟國首腦都公佈美國總統邀請佢_i

muigo bakjoek manggwok saunou dou gung-bou meigwok zunttung jiu-ceng keoi
every NATO ally leader all announce USA president invite he
“Every_i chief of the state of NATO's members announced that the US president has
offered him_i an invitation.”

(188) 每個內閣成員都公佈首相支持佢_i

muigo noigok cingjyun dou gung-bou sausoeng zi-ci keoi
every cabinet member all announce Prime Minister support he
“Every cabinet member_i announced the Prime Minister supported him_i.”

The pronoun “佢(keoi)” in (179)-(188) exhibits bound variable reading.

Binding Facts - Pattern B(4) – Referential Pronouns

(A is the matrix subject & P the specifier of the embedded clause object)

(189) 小明希望小強明白佢嘅苦心

siuming hei-mong siukoeng ming-baak keoi ge fusam
Siuming hope Siukoeng understand he 's goodness
"Siuming_i hopes Siukoeng understands his_i goodness."

(190) 小明希望其他人欣賞佢嘅作品

siuming hei-mong geitaajan jan-soeng keoi ge zokban
Siuming hope others appreciate he 's work
"Siuming_i hopes others appreciate his_i work."

(191) 小新擔心海盜搶走佢嘅錢同船

siusan daam-sam hoidou coeng zau keoi ge cin tung syun
Siusan worry pirate plunder Mkr he 's money and boat
"Siusan_i is worried that pirates would plunder him_i of his money and boat."

(192) 小明埋怨政府係今次金融風暴裏忽視佢嘅利益

siuming maai-jyun zingfu gamci gamjung fungbou leoi fat-si keoi ge leijik
Siuming complain government this financial storm in disregard he 's interest
"Siuming_i complained that the government sank his_i interest in this financial crisis."

(193) 小新懷疑小強暗算佢阿哥

siusan waai-ji siukoeng am-syun keoi aago
Siusan suspect Siukoeng plot-against he elder-brother
"Siusan_i suspects Siukoeng plots against his_i elder bother."

(194) 小新知道小敏支持佢嘅決定

siusan zi-dou siuman zi-ci keoi ge kyutdeng
Siusan know Siuman support he 's decision
"Siusan_i knows that Siuman supports his_i decision."

(195) 陳議員猜測王議員反對佢嘅動議

canjiyun caai-caak wongjiyun faan-deoi keoi ge dungji
councilor, Chan conjecture councilor, Wong reject he 's motion
"Councilor, Chan_i conjectures councilor, Wong rejects his_i motion."

(196) 王五透露小強妒忌佢嘅成功

wongm tau-lou siukoeng dou-gei keoi ge cingung
Wongm confide Siukoeng envy he 's success
"Wongm_i confided that Siukoeng envied his_i success."

(197) 王五承認兇手係佢細佬

wongm singjan hungsau hai keoi sailou
Wongm admit murderer is he younger-brother
"Wongm_i admitted the murderer was his_i younger brother."

(198) 陳參議員估計李參議員想離開佢嘅陣營

cancaamjiyun gugai leicaamjiyun soeng lei-hoi keoi ge zanjing
Senator, Chan judge senator, Lee want leave he 's party
"The senator, Chan_i judged that senator, Lee wanted to leave his_i party."

In (189)-(198) the matrix subject can bind the referential pronoun

Binding Facts - Pattern B(4) – Bound Pronouns

(A is the matrix subject & P the specifier of the embedded clause object)

(201) 每個人都希望小強明白佢嘅苦心

muigojan dou hei-mong siukoeng ming-baak keoi ge fusam
everyone all hope Siukoeng understand he 's goodness
"Everyone_i hopes Siukoeng understands his_i goodness."

(202) 每個畫家都希望其他人欣賞佢嘅作品

muigo waagaa dou hei-mong geitaajan jan-soeng keoi ge zokban
every painter all hope others appreciate he 's work
"Every painter_i hopes others appreciate his_i work."

(203) 每個漁民都擔心海盜搶走佢嘅錢同船

muigo jyuman dou daam-sam hoidou coeng zau keoi ge cin tung syun
every fisherman all worry pirate plunder Mkr he 's money and boat
"Every fisherman_i is worried pirates would plunder him_i of his money and boat."

(204) 每個投資失敗嘅人都埋怨政府

muigo tau-zi sat-baai ge jan dou maai-jyun zingfu

every invest lose 's person all compalin government

係今次金融風暴裏忽視佢嘅利益

hai gamci gamjung fungbou leoi fat-si keoi ge leijik

in this financial storm in disregard he 's interest

"Every losing investor_i complained the government sank his_i interest."

(205) 每個人都懷疑小強暗算佢阿哥

muigojan dou waai-ji siukoeng am-syun keoi aago

everyone all suspect Siukoeng plot-against he elder brother

"Everyone_i suspects Siukoeng plots against his_i elder brother."

(206) 每個內閣成員都知道總統支持佢嘅決定

muigo noigok cingjyun dou zi-dou zunttung zi-ci keoi ge kyutdeng

every cabinet member all know president support he 's decision

"Every cabinet member_i knows the president supports his_i decision."

(207) 每個保守黨黨員都猜測貝理雅反對佢嘅動議

muigo bousaudong dongjyun dou caai-caak buileiaa faan-deoi keoi ge dungji

every Conservative Party member all conjecture Blair reject he 's motion

"Every Conservative Party member_i conjectures Blair would reject his_i motion."

(208) 每個內閣成員都透露小強妒忌佢嘅成功

muigo noigok cingjyun dou taulou siukoeng dou-gei keoi ge cingung

every cabinet member all confide Siukoeng envy he 's success.

"Every cabinet member_i confided Siukoeng envied his_i success."

(209) 一個中年男子承認兇手係佢細佬

jatgo zungnin naamjaan sing-jan hungsau hai keoi sailou

one middle-age man admit murderer is he younger-brother

"One man_i admitted the murderer was his_i younger brother."

(210) 每個內閣成員都估計李參議員想離開佢嘅陣營

muigo noigok cingjyun dou gu-gai leicaamjijyun soeng lei-hoi keoi ge zanjing

every cabinet member all judge senator, Chan want leave he 's party

"Every cabinet member_i judges the senator, Chan wants to leave his_i party."

Sentences (201)-(210) all allow bound pronoun reading in the specifier position of the object.

3.2. *Patterns in which the antecedent does NOT c-command the pronoun*

In this section, we will go through example sentences of Patterns C and D in which the antecedent does NOT c-command the pronoun.

Binding Facts - Pattern C(1) – Referential Pronouns

(A is the specifier of the subject & P is the object)

(211) 小明嘅老師好痛錫佢_i

siuming ge lousi hou tung-sek keoi

Siuming 's teacher very favour he

"Siuming_i 's teacher favour him_i very much."

(212) 小新嘅同學好欣賞佢_i

siusan ge tung-hok hou jan-soeng keoi

Siusan 's classmate very admire he

"Siusan_i 's classmate admires him_i very much."

(213) 小新嘅家人支持佢_i

siusan ge gaajan zi-ci keoi

siusan 's family-member support he

"Siusan_i 's family members support him_i."

(214) 小新嘅兄弟追殺緊佢_i

siusan ge hing-dai zeoi-saai gan keoi

Siusan 's brothers pursue ASP he

"Siusan_i 's brothers are pursuing him_i."

(215) 小新嘅父母放棄左佢_i

siusan ge fumou fong-hei zo keoi

Siusan 's father give-up ASP he

"Siusan_i 's father has given him_i up."

(216) 小新嘅父母痛錫佢_i

siusan ge fumou tunt-soeng keoi

Siusan 's parent favour he
"Siusan_i 's parents favour him_i."

(217) 小新嘅學校表揚佢_i

siusan ge hokhaau biu-joeng keoi
Siusan 's school cite he
"Siusan_i 's school cites him_i."

(218) 小新嘅失敗經驗磨鍊緊佢_i

siusan ge satbaai gingjim mo-lin gan keoi
Siusan 's failure experience temper ASP he
"Siusan_i 's failure is tempering him_i."

(219) 小新嘅直覺誤導左佢_i

siusan ge zikgok m-dou zo keoi
Siusan 's instinct mislead ASP he
"Siusan_i 's instinct has misled him_i."

(220) 小新嘅野心摧毀左佢_i

siusan ge jesam ceoi-wai zo keoi
Siusan 's ambition ruin ASP he
"Siusan_i 's ambition has ruined him_i."

The pronoun "佢(keoi)" is not bound in (211)-(220) as it is not c-commanded by the subject NP "小新(siusan)". Coreference is possible and both the specifier of the subject NP and the pronoun can refer to the same referent in each sentence.

Binding Facts - Pattern C(1) – Bound Pronouns

(A is the specifier of the subject & P is the object)

(221) 每個乖學生嘅老師都痛錫佢_i

muigo gwaaiahoksaang ge lousi dou tung-sek keoi
every bright student 's teacher very favour he
"Every bright student_i 's teachers favour him_i."

(222) 每個高材生嘅同學都欣賞佢_i

muigo goucoisaang ge tunghok dou jan-soeng keoi
every brilliant student 's classmate all admire he
"Every brilliant student_i 's classmates admire him_i."

(223) 每個失業者嘅家人都支持佢

muigo satjipze ge gaajan dou zi-ci keoi
every employed 's family-member all support he
"Every employed's family members support him."

(224) 每個二伍仔嘅兄弟都追殺佢

muigo jimzai ge hingdai dou zeoi-sai keoi
every rebel 's gangster all pursue he
"Every rebel's friends pursue him."

(225) 每個道友嘅家人都放棄佢

muigo doujau ge gaajan dou fong-hei keoi
every drug-addict 's family-member all give-up he
"Every drug addict's family members give up him."

(226) 每個孩子嘅父母都痛錫佢

muigo haaizi ge fumou dou tung-sek keoi
every child 's parent all favour he
"Every child's parents favour him."

(227) 每個9優生嘅學校都表揚佢

muigo . gaujausaang ge hokhaau dou biu-joeng keoi
every student who got 9 A grades in HKCE 's school all cite he
"Every student, who got A grades 9 subjects in HKCE, 's school cite him."

(228) 每個強者嘅失敗經驗都磨鍊緊佢

muigo goengze ge satbaai gingjim dou mo-lin gan keoi
every strongman 's failure experience all temper ASP he
"Every strongman's failure is tempering him."

(229) 每個迷信者嘅直覺都誤導左佢

muigo maiseonze ge zikgok dou m-dou zo keoi
every superstitionist 's instinct all mislead ASP he
"Every superstitionist's instinct has misled him."

(230) 每個獨裁者嘅野心都摧毀左佢

muigo dukcoize ge jesam dou ceoi-wai zo keoi

every dictator 's ambition all ruin ASP he

"Every dictator_i ambition has ruined him_i."

(221)-(230) show bound pronoun reading is acceptable.

Binding Facts - Pattern C(2) - Referential pronouns

(A is the specifier of the subject & P the specifier of the object)

(231) 小新嘅童年影響住佢嘅性格

siusan ge tungnin jeng-hoeng zyu keoi ge singgaak

Siusan 's childhood impact Mkr he 's character

"Siusan_i 's childhood has an impact on his_i character."

(232) 小新嘅命運取決於佢嘅性格

siusan ge mengwan ceoi-kyut jyu keoi ge singgaak

Siusan 's faith depend on he 's character

"Siusan_i 's faith depends on his_i character."

(233) 小新嘅信念捍衛住佢嘅理想

siusan ge seonnim hon-wai zyu keoi ge leisoeng

Siusan 's conviction defend Mkr he 's ideal

"Siusan_i 's conviction defends his_i ideal."

(234) 小新嘅精神放左係佢嘅工作上

siusan ge zengsan fong zo hai keoi ge gungzok soeng

Siusan 's energy place ASP in he 's work aspect

"Siusan_i 's energy is devoted to his_i work."

(235) 小新嘅身體遺傳左佢父母部份嘅特徵

siusan ge santai wai-cyun zo keoi fumou boufan ge dakzeng

Siusan 's body inherit ASP he parents part-of 's particularity

"Siusan_i 's body inherits some particularities from his_i parents."

(236) 小新嘅說話反映佢嘅思想

siusan ge jyutwaa faan-jing keoi ge sisoeng

Siusan 's words reflect he 's thought

"Siusan_i 's words reflect his_i thought."

(237) 小新嘅經歷模造佢嘅思想

siusan ge ginglik mou-zou keoi ge sisoeng
Siusan 's experience mold he 's thought
"Siusan_i 's experience molds his_i thought."

(238) 小新嘅政綱表揚左佢嘅往績

siusan ge zinggong biu-joeng zo keoi ge wongzek
Siusan 's ministerial-program praise ASP he 's achievement
"Siusan_i 's ministerial program praises his_i achievements."

(239) 小新嘅著作源於佢嘅生活體驗

siusan ge zyuzok jyun-jyu keoi ge saangwut taijim
Siusan 's work originate he 's living experience
"Siusan_i 's work originates from his_i experience in living."

(240) 小新嘅著作宣傳著佢嘅歪理

siusan ge zyuzok syun-cyun zoek keoi ge waailei
Siusan 's writing propagandize Mkr he 's choplogic
"Siusan_i 's writing propagandizes his_i choplogic."

(241) 小新嘅父親影響住佢嘅性格

siusan ge fucan jeng-hoeng zyu keoi ge singgaak
Siusan 's father impact Mkr he 's character
"Siusan_i 's father has an impact on his_i character."

(242) 小新嘅朋友捍衛住佢嘅理想

siusan ge pangjau hon-wai zyu keoi ge leisoeng
Siusan 's friends defend Mkr he 's ideal
"Siusan_i 's friends defend his_i ideals."

(243) 小新嘅哥哥遺傳左佢父母部份嘅特徵

siusan ge gogo wai-cyun zo keoi fumou boufan ge dakzeng
Siusan 's elder-brother inherit ASP he parents part-of 's particularity
"Siusan_i 's elder brother inherits some particularities from his_i parents."

(244) 小新嘅支持者表揚著佢嘅住績

siusan ge zicize biu-joeng zoek keoi ge wongzek

Siusan 's support praise Mkr he 's achievement

"Every candidate_i 's supporter praises his_i achievements."

(245) 小新嘅部下宣傳著佢嘅歪理

siusan ge bouhaa syun-cyun zoek keoi ge waailei

Siusan 's man propagandize Mkr he 's choplogic

"Siusan_i 's man propagandizes his_i choplogic."

Obviously, coreference between the specifier of the subject NP and the pronoun is allowed in (231)-(245).

Binding Facts - Pattern C(2) - **Bound pronouns**

(A is the specifier of the subject & P the specifier of the object)

(246) 每個人嘅童年都影響住佢嘅性格

muigojan ge tungnin dou jeng-hoeng zyu keoi ge singgaak

everyone 's childhood all impact Mkr he 's character

"Everyone_i 's childhood has an impact on his_i character."

(247) 每個人嘅命運都取決於佢嘅性格

muigojan ge mengwan dou ceoi-kyut jyu keoi ge singgaak

everyone 's faith all depend on he 's character

"Everyone_i 's faith depends on his_i character."

(248) 每個人嘅信念都捍衛住佢嘅理想

muigojan ge seonnim dou hon-wai zyu keoi ge leisoeng

everyone 's conviction all defend Mkr he 's ideal

"Everyone_i 's conviction defends his_i ideal."

(249) 每個打工仔嘅精神都放左係佢嘅工作上

muigo daagungzai ge zengsan dou fong zo hai keoi ge gungzok soeng

every employee 's energy all place ASP in he 's work aspect

"Every employee_i 's energy is devoted to his_i work."

(250) 每個人嘅身體都遺傳左佢父母部份嘅特徵

muigojan ge santai dou wai-cyun zo keoi fumou boufan ge dakzeng
everyone 's body all inherit ASP he parents part-of 's particularity
"Everyone_i 's body inherits some particularities from his_i parents."

(251) 每個人嘅說話都反映佢嘅思想

muigojan ge jyutwaa dou faan-jing keoi ge sisoeng
everyone 's words all reflect he 's thought
"Everyone_i 's words reflect his_i thought."

(252) 每個人嘅經歷都模造佢嘅思想

muigojan ge ginglik dou mou-zou keoi ge sisoeng
everyone 's experience all mold he 's thought
"Everyone_i 's experience molds his_i thought."

(253) 每個參選者嘅政綱都表揚著佢嘅往績

muigo caamsyunze ge zinggong dou biu-joeng zoek keoi ge wongzek
every candidate 's ministerial-program all praise Mkr he 's achievement
"Every candidate_i 's ministerial program praises his_i achievements."

(254) 每個作家嘅著作都源於佢嘅生活體驗

muigo zokgaa ge zyuzok dou jyun-jyu keoi ge saangwut taijim
every writer 's work all originate he 's living experience
"Every writer_i 's work originates from his_i experience in living."

(255) 每個野心家嘅著作都宣傳著佢嘅歪理

muigo jesamgaa ge zyuzok dou syun-cyun zoek keoi ge waailei
every careerist 's writing all propagandize Mkr he 's choplogic
"Every careerist_i 's writing propagandizes his_i choplogic."

(256) 每個人嘅父親都影響住佢嘅性格

muigojan ge fucan dou jeng-hoeng zyu keoi ge singgaak
everyone 's father all impact Mkr he 's character
"Everyone_i 's father has an impact on his_i character."

(257) 每個人嘅朋友都捍衛住佢嘅理想

muigojan ge pangjau dou hon-wai zyu keoi ge leisoeng
everyone 's friends all defend Mkr he 's ideal
"Everyone_i 's friends defend his_i ideals."

(258) 每個人嘅哥哥都遺傳左佢父母部份嘅特徵

muigojan ge gogo dou wai-cyun zo keoi fumou boufan ge dakzeng
everyone 's elder-brother all inherit ASP he parents part-of 's particularity
"Everyone_i 's elder brother inherits some particularities from his_i parents."

(259) 每個參選者嘅支持者都表揚著佢嘅住績

muigo caamsyunze ge zicize dou biu-joeng zoek keoi ge wongzek
every candidate 's support all praise Mkr he 's achievement
"Every candidate_i 's supporter praises his_i achievements."

(260) 每個野心家嘅部下都宣傳著佢嘅歪理

muigo jesamgaa ge bouhaa dou syun-cyun zoek keoi ge waailei
every careerist 's man all propagandize Mkr he 's choplogic
"Every careerist_i 's man propagandizes his_i choplogic."

Sentences (246)-(260) show bound pronoun reading is allowed in Pattern C(2) and its distribution is the same as that of referential pronouns.

Binding Facts - Pattern D(1) – Referential pronouns

(A is the specifier of the matrix subject & P the embedded clause subject)

(261) 小新嘅父親認為佢年少時無知

siusun ge fucan jan-wai keoi ninsiusi mouzi
Siusun 's father think he young ignorant
"Siusun_i 's father thinks he_i was ignorant when he was young."

(262) 小新嘅老婆希望佢平安無事

siusun ge loupou hei-mong keoi pengonmousi
Siusun 's wife hope he sound-and-safe
"Siusun_i 's wife hopes he_i can be sound and safe."

(263) 小新嘅家人知佢責任重大

siusan ge gaajan zi keoi zaakjam cungdaai
Siusan 's family-member know he responsibility serious
"Siusan_i 's family member knows he_i has a serious responsibility."

(264) 小新嘅家屬認為佢好不幸

siusan ge gaasuk jan-wai keoi hou bat-hang
Siusan 's family-member think he very unlucky
"Siusan_i 's family member thinks that he_i was very unlucky."

(265) 小新嘅爸爸相信佢已經盡左力

siusan ge baabaa soeng-seon keoi jiging zeon zo lik
Siusan 's father think he already try-hard ASP effort.
"Siusan_i 's father thinks he_i has already tried his best."

(266) 小新嘅下屬話佢脾氣暴躁

siusan ge haasuk waa keoi peiheiboucou
siusan 's subordinate say he hot-tempered
"Siusan_i 's subordinate said he_i was hot-tempered."

(267) 小新嘅朋友知道佢鐘意細路

siusan ge pangjau zi-dou keoi zungji sailou
siusan 's friend know he like kids
"Siusan_i 's friend knows he_i likes kids."

(268) 小新嘅老師話佢聰明過人

siusan ge lousi waa keoi cungming gwo jan
siusan 's teacher say he clever than person
"Siusan_i 's teacher said he_i was cleverer than others."

(269) 小新嘅辯護律師否認佢犯過罪

siusan ge binwuleotsi faujan keoi faan gwo zeoi
siusan 's counsel deny he commit Mkr crime
"Siusan_i 's counsel denied he_i has committed crime."

(270) 小新嘅研究報告指出佢已經發明出複製人類的方法

siusan ge jingaubougou ziceot keoi jiging wan dou fukzai janleoi ge fongfaat
siusan 's research-paper point-out he already find Mkr duplicate human 's method
"Siusan_i 's research paper points out he_i has invented a method to duplicate
human."

In sentences (261)-(270), coreference reading between the specifier of the matrix subject and the pronoun can be obtained without difficulty. The reflexive "自己(zigei)" cannot refer to the matrix subject specifier if it is used instead of the pronoun.

小新嘅父親認為自己年少時無知

siusan ge fucan jan-wai zigei ninsiusi mouzi
Siusan 's father think self young ignorant
"Siusan_i 's father_i thinks he_i was ignorant when he was young."

Binding Facts - Pattern D(1) – Bound pronouns

(A is the specifier of the matrix subject & P the embedded clause subject)

(271) 每個孩子嘅父親都認為佢年少時無知

muigo haaizi ge fucan dou jan-wai keoi ninsiusi mouzi
every son 's father all think he young ignorant
"Every boy_i 's father thinks he_i was ignorant when he was young."

(272) 每個消防員嘅老婆都希望佢平安無事

muigo siufonggyun ge loupou dou hei-mong keoi pengonmousi
every fireman 's wife all hope he sound-and-safe
"Every fireman_i 's wife hopes he_i can be sound and safe."

(273) 每個警察嘅家人都知佢責任重大

muigo gingcaat ge gaajan duo zi keoi zaakjam cungdaai
every policeman 's family-member all know he responsibility serious
"Every policeman_i 's family member knows he_i has a serious responsibility."

(274) 每個意外失蹤者嘅家屬都認為佢好不幸

muigo jingoi satzungze ge gaasuk dou jan-wai keoi hou bat-hang
every mishap the-missing 's family-member all think he very unlucky
"Every missing person_i 's family member thinks he_i was very unlucky."

(275) 每個勤奮會考生嘅爸爸都相信佢已經盡左力

muigo kanfan kuihaausaang ge baabaa dou soeng-seon keoi jiging zeon zo lik
every diligent candidate-for-HKCE 's father all think he already try-hard ASP effort
"Every HKCE candidate_i 's father thinks he_i has already tried his best."

(276) 每個獨裁者嘅下屬都話佢脾氣暴躁

muigo dukcoize ge haasuk dou waa keoi peiheiboucou
every dictator 's subordinate all say he hot-tempered
"Every dictator_i 's subordinate said he_i was hot-tempered."

(277) 每個善良人嘅朋友都知道佢鍾意細路

muigo sinloeng jan ge pangjau dou zi-dou keoi zungji sailou
every kind-hearted person 's friend all know he like kids
"Every kind-hearted person_i 's friend knows he_i likes kids."

(278) 每個天才兒童嘅老師都話佢聰明過人

muigo tincoijitung ge lousi dou waa keoi cungming gwo jan
every an-infant-genius 's teacher all say he clever than person
"Every infant genius_i 's teacher said he_i is cleverer than others."

(279) 每個被告嘅辯護律師都否認佢犯過罪

muigo beigou ge binwuleotsi dou faujan keoi faan gwo zeoi
every defendant 's counsel all deny he commit Mkr crime
"Every defendant_i 's counsel denied he_i has committed crime."

(280) 一個科學家嘅研究報告指出

jatgo fohokgaa ge jingaubougou ziceot
one scientist 's research-paper point-out
佢已經發明出複製人類的方法
keoi jiging wan dou fukzai janleoi ge fongfaat

he already find Mkr duplicate human 's method

"One scientist_i 's research paper points out he_i has invented a method to duplicate human."

Sentences (271)-(280) indicate bound pronoun readings are possible in Pattern D(1). The reflexive 自己(zigei) cannot refer to the specifier of the matrix subject if it is used instead of a pronoun.

每個孩子嘅父親都認為自己_i年少無知

muigo haaizi ge fucan dou jan-wai zigei ninsiumouzi

every son 's father all think self young-and-ignorant

"Every boy_i 's father_i thinks (he_i) was ignorant when he was young."

Binding Facts - Pattern D(2) – Referential Pronouns

(A is the specifier of the matrix subject & P the embedded clause object)

(281) 小新嘅父親認為不良漫畫影響左佢_i

siusan ge fucan jan-wai batloeng maanwaa jeng-hoeng zo keoi

Siusan 's father think indecent comic influence ASP he

"Siusan_i 's father thinks that indecent comics would influence him_i."

(282) 小新嘅老婆希望哩串佛珠保佑佢_i

siusan ge loupou hei-mong lecyun fatzyu bou-jau keoi

Siusan 's wife hope this-string-of Buddhist bead bless he

"Siusan_i 's wife hopes this string of Buddhist bead would bless him_i."

(283) 小新嘅家人知道警察查緊佢_i

siusan ge gaajan zi-dou gingcaat caa gan keoi

Siusan 's family-member know policeman investigate Mkr he

"Siusan_i 's family member know Police is investigating him_i."

(284) 小新嘅家屬害怕大海已經帶走佢_i

siusan ge gaasuk hoi-paa daaihoi daai zau keoi

Siusan 's family-member fear sea bring away he

"Siusan_i 's family member fear the sea would bring him_i away."

(285) 小新嘅屋企人擔心考牌官刁難佢_i

siusan ge ukkeijan daam-sam haaupaaigun diu-naan keoi

Siusan 's family-member worry invigilator spite he

"Siusan_i 's family member is worried that the invigilator would spite him_i."

(286) 小新嘅家人話隔離屋討厭佢_i

siusan ge gaajan waa gaakleiuk tou-jim keoi
Siusan 's family-member say neighbour dislike he
"Siusan_i 's family member said that neighbours disliked him_i."

(287) 小新嘅告密信指出反對黨試圖暗殺佢_i

siusan ge goumatseon zi-ceot faandeoidang si-tou am-saa_i keoi
Siusan 's secret-letter point-out opposition attempt assassinate he
"Siusan_i 's secret letter pointed out that the opposition attempted to assassinate him_i."

(288) 小新嘅民意調查顯示對手已經拋離佢_i

siusan ge manjideuc_{aa} hin-si deoisau jiging paau-lei keoi
Siusan 's opinion-poll show opponent already surpass he
"Siusan_i 's opinion poll shows that the opponent has already surpassed him_i in rating."

(289) 哩個恐怖份子嘅情報證實美軍正在監察佢_i

lego hungboufanzi ge cingbou zing-sat meigwan zengzoi gaam-si keoi
this terrorist 's intelligence confirm US. Army now observe he
"This terrorist_i 's intelligence confirms that the US. Army is observing him_i."

(290) 行政長官嘅高支持度反映左市民普遍滿意佢_i

haangzing coenggun ge gou zicidok faan-jing zo siman poubin mun-ji keoi
Administration executive 's high rating reflect ASP citizen generally satisfy he
"The administrative executive_i 's high rating reflects citizens are generally satisfied with him_i."

Sentences (281)-(290) show coreference reading can be obtained in Pattern D(2) where the specifier of the subject NP does not c-command the pronoun at s-structure.

Binding Facts - Pattern D(2) – Bound Pronouns

(A is the specifier of the matrix subject & P the embedded clause object)

(291) 每個孩子嘅父親都認為不良漫畫影響左佢_i

muigo haaizi ge fucan dou jan-wai batloeng maanwaa ying-hoeng zo keoi
every son 's father all think indecent comic influence ASP he
"Every boy_i 's father thinks that the indecent comic would influence him_i."

(292) 每個消防員嘅老婆都希望哩串佛珠保佑佢_i

muigo siufongjyun ge loupou dou hei-mong lecyun fatzyu bou-jau keoi
every fireman 's wife all hope this-string-of Buddhist-bead bless he
"Every fireman_i 's wife hopes that this string of Buddhist bead would bless him_i."

(293) 每個疑犯嘅家人都知道警察查緊佢_i

muigo jifaaan ge gaajan dou zi-dou gingcaat caa gan keoi
every suspect 's family-member all know policeman investigate Mkr he
"Siusan_i 's family member know Police is investigating him_i."

(294) 每個意外失蹤者嘅家屬害怕算大海帶走佢_i

muigo jingoi satzungze ge gaasuk dou hoi-paa daaihoi daai zau keoi
every mishap the-missing 's family-member all fear sea bring away he
"Every missing person_i 's family member fears the sea would bring him_i away."

(295) 每個考車牌嘅人嘅屋企人

muigo haaucepaai ge jan ge ukkeijan
every take-the-driving-liscence-exam 's person 's family-member
都擔心考牌官刁難佢_i
dou daam-sam haaupaaigun diu-naan keoi
all worry invigilator spite he
"Every examinant_i, for driving liscence exam, 's family member is worried that the
invigilator would spite him_i."

(296) 每個道友嘅家人都話隔離屋討厭佢_i

muigo doujau ge gaajan dou waa gaakleiuk tou-jim keoi
every drug-addict 's family-member all say neighbour dislike he
"Every drug-addict_i 's family member said that neighbours disliked him_i."

(297) 一個議員嘅告密信指出反對黨試圖暗殺佢

jatgo jijyun ge goumatseon zi-ceot faandeoidang si-tou am-saai keoi
one councilor 's secret-letter point-out opposition attempt assassinate he
"One councilor 's secret letter pointed out that the opposition attempted to
assassinate him."

(298) 一個參選者嘅民意調查顯示對手已經拋離佢

jatgo caamsyunze ge manjideucaa hin-si deoisau jiging paau-lei keoi
one candidate 's opinion-poll show opponent already surpass he
"One candidate 's opinion poll shows that the opponent has already surpassed him
in rating."

(299) 每個恐怖份子嘅情報證實美軍正在監察佢

muigo hungboufanzi ge cingbou zing-sat meigwan zengzoi gaam-si keoi
every terrorist 's intelligence confirm US. Army now observe he
"Every terrorist 's intelligence confirms that the US. Army is observing him."

(300) 每個議員嘅高支持度都反映左市民普遍滿意佢

muigo jijyun ge gou zicidok dou faan-jing zo siman poubin mun-ji keoi
every councilor 's high rating all reflect ASP citizen generally satisfy he
"Every councilor 's high rating reflects citizens are generally satisfied with him."

Sentences (291)-(300) indicate bound pronoun reading can be obtained in
Pattern D(2) even the quantified NP does not c-command the pronoun at s-
structure.

3.3. Summary of the binding facts

The patterns discussed in this thesis for pronoun distribution are repeated
below for convenience.

Patterns in which the antecedent c-commands the pronoun

Pattern A – Antecedent(A) & Pronouns(P) are clausemates

- (1) A is the subject & P the object
- (2) A is the subject & P the specifier of the object

Pattern B – Antecedent(A) & Pronouns(P) are **non**-clausemates

- (1) A is the matrix subject & P the embedded clause subject

- (2) A is the matrix subject & P the specifier of the embedded clause subject
- (3) A is the matrix subject & P the embedded clause object
- (4) A is the matrix subject & P the specifier of the embedded clause object

Patterns in which the antecedent does NOT c-command the pronoun

Pattern C – Antecedent(A) & Pronouns(P) are clausemates

- (1) A is the specifier of the subject & P the object
- (2) A is the specifier of the subject & P the specifier of the object

Pattern D – Antecedent(A) & Pronouns(P) are **non**-clausemates

- (1) A is the specifier of the matrix subject & P the embedded clause subject
- (2) A is the specifier of the matrix subject & P the embedded clause object

Patterns		Binding Possibility	
		Referential Pronoun	Bound Pronoun
The antecedent c-commands the pronoun	A(1)	NO	NO
	A(2)	YES	YES
	B(1)	YES	YES
	B(2)	YES	YES
	B(3)	YES	YES
	B(4)	YES	YES
The antecedent does not c-command the pronoun	C(1)	N/A	YES
	C(2)	N/A	YES
	D(1)	N/A	YES
	D(2)	N/A	YES

Table 1. – Summary of pronouns distribution

Table 1. summarizes the distribution of referential and bound pronouns. It is clear that, except for Pattern A(1), variable-binding is possible in all patterns and referential pronouns are allowed in Patterns (A) and (B) – Both bound and referential pronouns share similar distribution. The adequacy of Principle B is confirmed through the unavailability of bound pronoun reading in Pattern A(1).

Chapter IV A revisit of the proposals on Bound pronouns

We have already briefly gone through the relevant literature and the facts on pronominal binding in the previous chapter. In this chapter, some theoretical and empirical adequacies of different proposals will be evaluated. In so doing, some counterexamples and theoretical concerns will be discussed. Now we start with Higginbotham (1980) first.

4.1. Review of Higginbotham (1980)

While capable of explaining lots of English sentence patterns regarding variable binding, Higginbotham (1980) still suffers from the inadequacy in predicting the distribution of Chinese bound pronouns. He claims that a non-c-commanding NP cannot antecede the bound pronoun and proposes the *Crossover Condition for Chinese* as a constraint on the application of the reindexing Rule. The condition is repeated below.

... [NP ... e_i ...]_j ... pronoun_i ...

Though this constraint can help explain (34), it rules out other well-formed sentences in Patterns C and D.

- (34) Shei_i de mauqin kanjian ta_i
- (222) 每個高材生嘅同學都欣賞佢 (Pattern C(1))
- (247) 每個人嘅命運都取決於佢嘅性格 (Pattern C(2))
- (272) 每個消防員嘅老婆都希望佢平安無事 (Pattern D(1))
- (293) 每個疑犯嘅家人都知道警察查緊佢 (Pattern D(2))

Obviously, c-command condition is not always the decisive factor determining whether bound pronoun is allowed. Therefore, the Crossover Condition for Chinese, which aims at filtering out the non-c-commanding antecedent, is not valid. Table 2 below shows how well Higginbotham (1980) predicts the possibility of bound pronoun reading in various sentence patterns.

Patterns	Predicted Bound Pronoun Reading Availability	Bound Pronoun Reading Availability	Correctness in Prediction
A(1)	NO	NO	✓
A(2)	YES	YES	✓
B(1)	YES	YES	✓
B(2)	YES	YES	✓
B(3)	YES	YES	✓

B(4)	YES	YES	✓
C(1)	NO	YES	✗
C(2)	NO	YES	✗
D(1)	NO	YES	✗
D(2)	NO	YES	✗

Table 2 – Review of Higginbotham (1980)'s prediction power

Also, the mechanism for the interpretation of pronouns is too complicated. In an effort to explain binding phenomena, Higginbotham adopts the indexing algorithm in Chomsky (1980). Both coindexing and contraindexing are employed. In fact, the latter is unnecessary since all contraindexing reading can be classified as an instance not resulting from coindexing, ie., cases where no coindexing can apply. It is for this reason, the mechanism of contraindexing can be removed from the theory.

Higginbotham introduces not only the concept of anaphoric indices and referential indices, but also two basic conditions - Nominative Island Condition and Opacity Condition. Besides, two additional reindexing rules and crossover constraints are added. A sound theory should explain as many language phenomena concerned as it can with fewest ad hoc assumptions. While capable of explaining some language data in English and Chinese, Higginbotham (1980) does introduce some ad hoc assumptions.

4.2. *Review of Reinhart (1983)*

The major difficulty with the Reinhart's coindexing rule is it provides no mechanisms to allow the English and Chinese sentences where a pronoun is bound by an NP in an argument position embedded within a second NP that c-commands the pronoun. (These structures correspond to Patterns C & D). As a result, many binding facts, as shown in (300)-(310), cannot be explained by Reinhart's theory.

- (300) [which portrait of [which writer]_i] [e_i pleases his_i mother]
- (301) [some assistant to [each Member of Parliament]_i] edits his_i speeches.
- (302) [Every friend of [someone here]_i] knows someone who hates him_i.
- (303) [the debate after [each reading of [a bill]_i]_k] bothered some of its_i supporters.

- (304) [Mary’s review of [[each writer’s]_i book]_j]_k pleased some of his admirers.
- (305) [[everyone’s]_i mother]_j loves him_i.
- (306) [[whose_i] mother]_j loves him_i.

Relevant Chinese sentences are repeated here.

- (307) 每個高材生嘅同學都欣賞佢 (Pattern C(1) - 222)
- (308) 每個打工仔嘅精神都放左係佢嘅工作上 (Pattern C(2) - 249)
- (309) 每個消防員嘅老婆都希望佢平安無事 (Pattern D(1) - 272)
- (310) 每個考車考牌嘅人嘅屋企人都擔心考牌官刁難佢 (Pattern D(2) - 295)

In short, the c-command condition for pronominal binding proposed by Reinhart is too rigid as it cannot capture the binding facts for bound pronouns. The description and explanation given to bound pronouns in both English and Chinese could only partially cover the data. Table 3. Summarizes Reinhart (1983)’s prediction and its performance.

Patterns	Predicted Bound Pronoun Reading Availability	Bound Pronoun Reading Availability	Correctness in Prediction
A(1)	NO	NO	✓
A(2)	YES	YES	✓
B(1)	YES	YES	✓
B(2)	YES	YES	✓
B(3)	YES	YES	✓
B(4)	YES	YES	✓
C(1)	NO Prediction can be made	YES	✗
C(2)	NO Prediction can be made	YES	✗
D(1)	NO Prediction can be made	YES	✗
D(2)	NO Prediction can be made	YES	✗

Table 3 – Review of Reinhart (1983)’s prediction power

To maintain his theory, Reinhart suggests modifying the notion c-command to allow the determiner of an NP to c-command what the NP c-command. However, the difference in acceptability between strong and weak crossover constructions cannot be captured with this modified notion of c-command. Also, the modified notion of c-command would lead to another problem concerning the pragmatic account of coreference. Reinhart’s pragmatic account assumes the speaker would be as explicit as possible if he or she intends to be understood. Coreference between the anaphors and the subject, therefore, is assumed in (311) but not in (312).

(311) John loves himself.

(312) John loves him.

While coreference between “John” and “him” is excluded in (312), it is allowed in (305) and (306) where the determiners in the subject position c-command the pronoun under the modified notion of c-command. This inconsistency in predictions on pronominal binding indicates Reinhart’s theory is inadequate in handling pronoun reading.

4.3. *Review of Koopman & Sportiche (1982)*

Since the Bijection Principle requires a one-to-one correspondence between variables and A’ positions, it would wrongly exclude the following English sentences taken from Lappin (1985) and Chinese sentences of different patterns above. Each embedded A’ binder in sentences (313)-(322) binds two variables, thus, according to the Principle, there should be no valid variable binding allowed. Contrary to the prediction, bound pronoun reading can be obtained in these sentences.

(313) [Which portrait of [which writer]_i]_i [e_i pleases his_i mother]

(313’) [which writer]_i [which portrait of e_i]_i [e_i pleases **his**_i mother]

(314) [Some assistant to [each Member of Parliament]_i]_i edits his_i speeches.

(314’) [each Member of Parliament]_i [some assistant to e_i]_i [e_i edits **his**_i speech]

(315) 每個警察都知道佢堅負住重大嘅責任 (Pattern B(1) - 135)

(316) 每個參賽者都承認佢嘅設計比小明差 (Pattern B(2) - 157)

(317) 每個作家都希望其他人欣賞佢 (Pattern B(3) - 180)

(318) 每個漁民都擔心海盜搶走佢嘅錢同船 (Pattern B(4) - 203)

(319) 每個乖學生嘅老師都痛錫佢 (Pattern C(1) - 221)

(320) 每個人嘅童年都影響住佢嘅性格 (Pattern C(2) - 246)

(321) 每個孩子嘅父親都認為佢年少時無知 (Pattern D(1) - 271)

(322) 每個意外失蹤者嘅家屬都害怕大海帶走佢 (Pattern D(2) - 294)

Bijection Principle also rules out (323) and (324), which are acceptable, in readings represented by the LFs (323’) and (324’) respectively.

(323) Everybody_i likes two friends of his_i wife.

(323’) [Everybody]_i [two friends of his_i wife]_i [e_i likes e_i]

- (324) Every friend of [someone here]_i knows someone who hates him_i.
 (324') [someone here]_i [Every friend of e_i]_i [someone who hates him_i]_k [e_i knows e_k]

It not only wrongly rules out the above sentences but also fails to distinguish the difference in acceptability between the pairs in (325)-(326) and (327)-(328).

- (325) Who_i did you give a picture of him_i to e?
 (326) Who_i did you give a picture of e_i to him_i?
 (327) Who_i did you draw a picture of e_i for his_i mother?
 (328) John spoke to the student who_i Bill sent a recommendation for e_i to his professor.

Sentences (327) and (328) are substantially better than (325) and (326). They are, however, equally predicted to be unacceptable by the principle. Undoubtedly, its requirement of a one-to-one correspondence between a variable and A' position and the definition of a variable are the culprit for its inadequacies. Table 4 below illustrates the principle's prediction adequacy on bound pronoun reading in various patterns.

Patterns	Predicted Bound Pronoun Reading Availability	Bound Pronoun Reading Availability	Correctness in Prediction
A(1)	NO	NO	✓
A(2)	NO	YES	✗
B(1)	NO	YES	✗
B(2)	NO	YES	✗
B(3)	NO	YES	✗
B(4)	NO	YES	✗
C(1)	NO	YES	✗
C(2)	NO	YES	✗
D(1)	NO	YES	✗
D(2)	NO	YES	✗

Table 4 – Review of Koopman & Sportiche (1982)'s prediction power

4.4. *Review of Lappin (1985)*

To account for binding of pronouns, regardless of referential or bound ones, by their antecedents, While claiming Principles A and B still hold, Lappin (1985) proposes the notions, Binding Chain and Condition on pronominal binding which are discussed in Chapter II. These notions work well in English and the main function of them is to ensure pronominal binding by non-c-commanding

antecedents in s-structure is possible in English. For Chinese, the parameter setting for the depth of the potential antecedent is set to 0, i.e., binding by non-c-commanding NP is forbidden. It follows that bound pronouns are not allowed in Patterns C and D as the antecedents do not c-command the pronouns. Table 5 shows Lappin (1985)'s prediction on bound pronoun reading in various patterns and the relevant adequacy.

Patterns	Predicted Bound Pronoun Reading Availability	Bound Pronoun Reading Availability	Correctness in Prediction
A(1)	NO	NO	✓
A(2)	YES	YES	✓
B(1)	YES	YES	✓
B(2)	YES	YES	✓
B(3)	YES	YES	✓
B(4)	YES	YES	✓
C(1)	NO	YES	✗
C(2)	NO	YES	✗
D(1)	NO	YES	✗
D(2)	NO	YES	✗

Table 5 – Review of Lappin (1985)'s prediction power

As seen in Table 5, Lappin (1985)'s prediction fails to account for pronominal binding by non-c-commanding NPs in Patterns(C) and (D). The culprit for this inadequacy lies in its parameter setting for the depth of the antecedents. Superficially, the problem can be solved by resetting the value from 0 to 1, thus allowing pronominal binding by non-c-commanding NP. In the next Chapter, we will show this amendment would lead to another problem concerning wh-phrases.

4.5. *Review of Aoun & Hornstein (1991), Aoun & Li (1990), Aoun & Li (1993)*

The inadequacy of the disjointness principles is of theoretical and empirical concern. From the theoretical point of view, there is a redundancy in the inclusion of the notion subject in the A'-disjointness condition. As the A'-disjointness condition states, a subject is included, but this grammatical function is already included in the CFC. In fact, Aoun & Hornstein are aware of this though they did not intend to eliminate this redundancy.

Aoun and Li (1990)'s CFC slightly deviates from what Chomsky (1986) has proposed. The inclusion of the subject in a CFC depends on the context in which the pronoun occurs. For example, they claim the least CFC for the pronoun in (329) is the matrix clause as a c-commanding subject is required by the A' disjointness condition and the pronoun itself cannot be a subject¹⁴.

(329) [有人_i喜歡他_i媽媽]_{CFC}

This deviates from Chomsky (1986) where the object NP can be minimal governing category, as shown in (330) below.

(330) The children_i like [their_i friends]_{CFC}

Our example sentences in Pattern A(2) have already shown a bound pronoun reading is possible in the sentence below.

(114) 每個懶學生都怕佢老師 (Pattern A(2))

If the matrix clause is the least CFC of the pronoun, according to A'-disjointness requirement, bound pronoun reading should not be allowed. Contrary to what the A'-disjointness requirement predicts, the reading is not ungrammatical. How can the CFC be defined in such a way without strong arguments in support of this stipulation? Why is it necessary to include a subject in the contexts of predication but not in other cases? The stipulation made in Aoun and Hornstein (1991), in this sense, is ad hoc.

The second major problem concerns their empirical data. For example, according to their theory, only structure (c) shown on the following page is well-formed and that accounts for the unacceptability of (a) and (b) of (73) and (74). They are repeated here as (331) and (332)¹⁵.

(a) *modal/negation/WH word ... QP_i ... pronoun_i

(b) *QP_i ... pronoun_i ... modal/negation/WH word

(c) QP_i ... modal/negation/WH ... word pronoun_i

(331a) [Wo **bu** zhidao [meigeren_i dou shuo [ta_i de—le jiang]]]

I not know everyone all say he got prize

"I do not know everyone_i says he_i got the prize."

(331b) [Meigeren_i dou shuo [ta_i zhidao [wo **mei** de—le jiang]]]

everyone all say he know I not got prize

"Everyone_i says he_i know I did not get the prize."

(331c) [Wo zhidao [meigeren_i dou **mei** gaosu renhe ren [ta_i de-le jiang]]

I know everyone all not tell any body he got prize

"I know everyone_i does not tell anyone_i that he got the prize."

(332a) [Wo **hui** zhidao [Meigeren_i dou shuo [ta_i de jiang]]]

I will know everyone all say he get prize

"I will know that everyone_i says that he_i got the prize."

(332b) [Meigeren_i dou shuo [ta_i zhidao [wo **hui** de jiang]]]

everyone all say he know I will get prize

"Everyone_i says that he_i knows that I will get the prize."

(332c) [Meigeren_i dou shuo [ta_i **hui** zhidao [wo de jiang]]]

everyone all say he will know I get prize

"Everyone_i says that he_i will know that I got the prize."

To me and other informed native speakers, the difference in acceptability between sentences (a), (b) and (c) of (331) and (332) is not so remarkable - sentences (b) are thought to be well-formed as sentences (a).

Other examples given by Aoun and Li often use the verb "xiang-zhidao"(want-to-know) which selects a [+wh] complementizer. This kind of verbs are often used with A-not-A operators, e.g., "Shi-bu-Shi" (be-not-be) and wh-phrase, e.g., "Shei"(Who), "Weishenme"(Why). Their presence is required by the verb, "xiangzhidao" and the removal of them would not lead to the unavailability of bound pronoun reading if the verb concerned does not select a [+wh] complementizer.

(333) 每個人都以為佢贏左個獎

muigojan_i dou ji-wai keoi_i jeng zo go zoeng

everyone all think he win ASP ClsR prize

"Everyone_i thinks he_i wins the prize."

The reading will be more accessible if "每個人(muigojan)" is changed to "每個自負嘅參賽者(muigo zifu ge caamcoize)".

(334) 每個自負嘅參賽者都以為佢贏左個獎

muigo zifu ge caamcoizei dou ji-wai keoi jeng zo go zoeng
 every conceited player all think he win ASP ClsR prize
 “Everyi conceited player thinks hei wins the prize.”

The sentence structure of the above sentence corresponds to Pattern B(1). As seen in Chapter III, bound pronoun reading is allowed in Pattern B(1). Also, according to the A'-disjointness requirement, bound pronoun reading is forbidden in Pattern B(2) in which the pronoun is the specifier of the subject in the embedded clause. Some sentences of Patterns B(1) and B(2) are repeated here.

Pattern B(1)

- (335) 每個會考生都希望佢順利升上中六 (137)
- (336) 每個文員都透露佢討厭黃經理 (139)

Pattern B(2)

- (337) 每個競選落敗者都知道佢嘅內閣落選左 (161)
- (338) 每個人都希望佢嘅夢想成真 (162)

Bound pronoun reading in (335)-(338), according to A' disjointness Condition, is disallowed but the facts show it is not so. Now it can be concluded that A' disjointness condition fails to explain the binding facts and the A-not-A operators and wh-phrases have no effect regarding variable binding. To sum up, A'-disjointness condition fails to allow Patterns A(2) and B(1) and proves to be inadequate. Table 6 shows the adequacy of A' disjointness requirement.

Patterns	Predicted Bound Pronoun Reading Availability	Bound Pronoun Reading Availability	Correctness in Prediction
A(1)	NO	NO	✓
A(2)	NO	YES	✗
B(1)	NO	YES	✗
B(2)	NO	YES	✗
B(3)	YES	YES	✓
B(4)	YES	YES	✓
C(1)	NO	YES	✗
C(2)	NO	YES	✗
D(1)	NO	YES	✗
D(2)	YES	YES	✓

Table 6 – Review of Aoun & Li (1990, 93) and Aoun & Hornstein (1991)’s prediction power.

Chapter V Discussion & Conclusion

The results shown in Table 1 confirms bound pronouns in Pattern A(1) are disallowed. Since Principle B deals with A-binding only, an independent principle is needed to capture the binding facts for bound pronouns which involves A'-binding. As we have seen, in the previous chapter, Lappin (1985)'s Binding Chain and Condition on Binding Domain and Higginbotham (1980)'s theory seem to have a sound coverage of the Chinese language data. In fact, they and other proposals under consideration can only offer partial coverage of the data. In this chapter, with language data involving wh-phrases, we will show these proposals are not sufficient in explaining all the binding facts in Chinese.

5.1. Bound Pronoun Condition for Chinese

The Bound Pronoun Condition for Chinese contains two clauses.

- (i) *A bound pronoun P must be A' free from Q in its governing category if Q c-commands P in the s-structure.*

OR

- (ii) *A bound pronoun P can be A' bound by Q if Q precedes and does not c-command P in the s-structure.*

where Q is a quantificational potential antecedent.

The notion governing category is defined as below.

A governing category for an expression α is the least CFC containing a governor of α in which α could satisfy the binding theory with some indexing¹⁶.

With the Bound Pronoun Condition, the binding facts in Patterns A, B, C and D can be captured. In the next section, we will take wh-phrases into consideration and see if the proposed condition can account for the bindings facts involving them.

5.2. Wh-phrases as A'-binders

The binding patterns involving wh-phrases are not exactly parallel with those with quantificational NPs.

(339) 邊個鐘意佢_i (c.f. Pattern A(1) - 91)

(340) 邊個出賣左佢嘅朋友 (c.f. Pattern A(2) - 111)

(341) 邊個公佈佢已經成功控制首都秩序 (c.f. Pattern B(1) - 133)

- | | |
|---------------------------|---------------------------|
| (342) 邊個埋怨佢嘅利益係今次金融風暴裏被忽視 | (c.f. Pattern B(2) - 164) |
| (343) 邊個作家希望其他人欣賞佢 | (c.f. Pattern B(3) - 180) |
| (344) 邊個希望小強明白佢嘅苦心 | (c.f. Pattern B(4) - 201) |
| (345) 邊個道友嘅家人放棄佢 | (c.f. Pattern C(1) - 225) |
| (346) 邊個人嘅童年影響住佢嘅性格 | (c.f. Pattern C(2) - 246) |
| (347) 邊個人嘅命運取決於佢嘅性格 | (c.f. Pattern C(2) - 247) |
| (348) 邊個消防員嘅老婆希望佢平安無事 | (c.f. Pattern D(1) - 272) |
| (349) 每個獨裁者嘅下屬都話佢脾氣暴躁 | (c.f. Pattern D(1) - 276) |
| (350) 邊個孩子嘅父親認為不良漫畫影響左佢 | (c.f. Pattern D(2) - 291) |
| (351) 邊個消防員嘅老婆希望哩串佛珠保佑佢 | (c.f. Pattern D(2) - 292) |

As shown above, bound pronoun readings are rejected in Patterns A(1), C and D. It seems that bound pronoun readings will be unacceptable whenever the *wh*-phrase does not *c-command* the pronoun at *s-structure*. The unacceptability of bound pronoun reading in Pattern A(1) is consistent with that with other quantified NPs. However, the impossibility of variable binding in Patterns C and D are unexpected and not captured by the Bound Pronoun Condition for Chinese. Modifications, therefore, are needed.

Bound Pronoun Condition for Chinese (Reviewed)

If Q is a non-wh quantificational NP, then either (i) or (ii) must be satisfied; otherwise, (iii) should be observed.

- (i) *A bound pronoun P must be A' free from Q in its minimal governing category if Q c-commands P in the s-structure.*
- (ii) *A bound pronoun P can be A' bound by Q if Q precedes and does not c-command P in the s-structure.*
- (iii) *A bound pronoun P must be A' free from Q in its minimal governing category and Q must c-command P at s-structure.*

where Q is a quantificational potential antecedent.

The notion governing category is the same as that defined in 5.1. With the modifications made, this new condition can handle cases associated with either *wh*-phrases or other quantificational NPs.

5.3. The Empty Reflexive Puzzle

Cited above in the examples, which involve pronouns in the subject position, the reflexive “自己(zigei)” can often be an alternative to a pronoun. In addition to this, pro-drop is also generally allowed if both the matrix and embedded clause subjects are coindexed. Clearly, the subject position in the embedded clause is where pronouns and reflexives can co-occur. Some may argue the pronoun in the subject position of the embedded clause is, in fact, a compound reflexive “佢自己(keoizigei)” with the reflexive part “自己”(zigei) dropped, as shown in (135) repeated as (354) below.

(354) 每個人都明白佢_i(自己)才能上係無可能超過美國總統克林頓嘅

If the subject of the embedded clause is a compound reflexive “佢自己(keoizigei)”, then it can only refer to the matrix subject NP “每個人(muigojan)”, as shown in (355).

(355) 每個人都明白佢自己_i才能上係無可能超過美國總統克林頓嘅

Contrary to our expectation, the pronoun in (354) is ambiguous between deictic and bound pronoun reading, where only the latter is possible for the compound reflexive. Some other examples cited above are repeated below and you can verify the claim yourself.

(356) 一個將軍公佈佢自己_i已經成功控制首都秩序 (cf. 133)

(357) 一個中年男人承認佢自己_i係琴日劫案嘅主謀 (cf. 134)

(358) 每個警察都知道佢自己_i肩負住重大嘅責任 (cf. 135)

(359) 每個人都講比朋友聽佢自己_i買到樓啦! (cf. 136)

(360) 每個會考生都希望佢自己_i順利升上中六 (cf. 137)

(361) 每個人都同小明講佢自己_i已經盡左一切嘅努力
為公司爭取最大嘅利益 (cf. 138)

(362) 每個文員都透露佢自己_i討厭黃經理 (cf. 139)

The unambiguous reading of the above sentences indicates the NP “佢(keoi)” is, in fact, a true pronoun rather than a compound reflexive with “自己(zigei)” dropped.

5.4. *pro-drop & Montabeltii's Overt Pronoun Constraint*

Though we have ruled out the possibility of compound reflexive in subject positions in 5.3, it is observed that pronouns in subject position can often be dropped. In relation to pro-drop and bound pronouns, Montabeltii (1984) proposes the overt pronoun constraint below.

Overt pronoun Constraint

Overt pronouns cannot have a bound reading when a corresponding non-overt form is available.

Huang (1991) points out this constraint is born out in Mandarin Chinese

- (363) 誰希望他能看見李四?

shei xi-wang ta neng kanjian lisi
who hope he can see Lisi
"Who_i hopes he_i can see Lisi?"

- (364) 沒有人說他很喜歡李四

meiyou ren shuo ta hen xi-huan lisi
no body say he very like Lisi
"Nobody_i says he_i likes Lisi very much."

- (365) 誰希望_{pro}能看見李四?

shei xi-wang _{pro} neng kanjian lisi
who hope can see Lisi
"Who_i hopes he_i can see Lisi?"

- (366) 沒有人說_{pro}很喜歡李四

meiyou ren shuo _{pro} hen xi-huan lisi
no body say very like Lisi
"Nobody_i says he_i likes Lisi very much."

This constraint does not apply to pronouns in object positions.

- (367) 誰希望李四會看見他?

shei xi-wang lisi neng kanjian ta
who hope Lisi can see he
"Who_i hopes Lisi can see him_i."

(368) 沒有人說李四很喜歡他_i

meiyou ren shuo lisi hen xi-huan ta

no body say Lisi very like he

Nobody_i says Lisi likes him_i very much.

Overt pronoun constraint offers an account for the seemingly subject-object asymmetry in above sentences and predicts overt bound pronoun is impossible whenever pro-drop is allowed. This amounts to saying bound pronoun reading in Patterns B(1) and B(2) should not be obtained. This is certainly contrary to the binding facts we have discussed above. The following are example sentences from Pattern B(1) and B(2) in Chapter III.

(136) 每個人都講比朋友聽(佢/自己_i)買到樓!

(157) 每個參賽者都承認(佢_i/自己_i嘅)設計比小明差

While pro-drop is possible in the sentences above, bound pronoun and reflexive reading is not excluded. Some speakers may regard sentences with the coindexed subject dropped more natural than those with a bound pronoun or reflexive. While this intuition may be shared by some speakers, the presence of bound pronouns should not be the cause for the oddity or unnaturalness. Chinese is a language allowing pro-drop and the grammar has offered the flexibility to drop a coindexed subject. Unnaturalness results if speakers choose to decline this offer regardless of the types of subject NP chosen - be it a reflexive or a bound pronoun.

5.5. Factors affecting pronominal binding

Having gone through different binding patterns of pronouns, other factors - *nature of verbs*, *quantifiers types* and *sentence types* concerning binding will be discussed in the rest of the chapter.

5.5.1. Nature of Verbs

Although syntax of Chinese permits bound pronoun reading within a certain environment, the nature of verbs does exert substantial influence on binding. The classification below summarizes types of verbs, with each exerting different influences on the binding behaviour of bound pronouns.

5.5.1.1. *Anti-Reflexive Verbs - forbid coindexation between the subject and the pronoun not embedded within an animated NP.*

Verbs like "同情(tung-cing)", "拒絕(keoi-zyut)", "啓發(kai-faat)", "驅逐(keoi-zuk)" and "體諒(tai-loeng)" fall into this category. Co-indexation between the subject NP and the pronoun, which is the specifier of the object NP, is disallowed if the latter is not embedded within an animated NP. This results in impossibility of binding. Sentences (369)-(373) show the facts.

- (369) 小明好同情 [佢_{i/j}嘅遭遇]_{Inanimate NP}
 siuming hou tung-cing keoi ge zoujyu
 Siuming very sympathize he 's misfortune
 "Siuming_i sympathizes with his_{i/j} misfortune."

- (370) 小明拒絕左 [佢_{i/j}嘅要求]_{Inanimate NP}
 siuming jujue zo keoi ge yaoqiu
 Siuming refuse ASP he 's request
 "Siuming_i has refused his_{i/j} request."

- (371) 小明啓發左 [佢_{i/j}嘅思維]_{Inanimate NP}
 siuming kai-faat zo keoi ge siwai
 Siuming enlighten ASP he 's thought
 "Siuming_i has enlightened his_{i/j} thinking."

- (372) 美軍驅逐 [佢_{i/j}嘅艦隊]_{Inanimate NP}
 meigwan keoi-zuk keoi ge laamdeoi
 US Army repel he 's fleet
 "The US Army_i repels his_{i/j} fleet."

- (373) 小強體諒 [佢_{i/j}嘅處境]_{Inanimate NP}
 siukoeng tai-loeng keoi ge cyuging
 Siukoeng considerate he 's position
 "Siukoeng_i is considerate towards him_{i/j} about his position."

Coindexation between the matrix subject and the bound pronoun is equally impossible, as in (374)-(378)

- (374) 每個人都好同情 [佢_{i/j}嘅遭遇]_{Inanimate NP}
 muigojan dou hou tung-cing keoi ge zoujyu

everyone all very sympathize he 's misfortune
 "Everyone_i sympathizes with his_{i/j} misfortune."

- (375) 每個人都拒絕左 [佢_{i/j}嘅要求]_{Inanimate NP}
 muigojan dou keoi-zyut zo keoi ge yaoqiu
 everyone all refuse ASP he 's request
 "Everyone_i has refused his_{i/j} request."
- (376) 每個人都啓發左 [佢_{i/j}嘅思維]_{Inanimate NP}
 muigojan dou kai-faat zo keoi ge siwai
 everyone all enlighten ASP he 's thought
 "Everyone_i has enlightened his_{i/j} thinking."
- (377) 每個國家都驅逐 [佢_{i/j}嘅艦隊]_{Inanimate NP}
 muigo gwokgaa dou keoi-zuk keoi ge laamdeoi
 every country all repel he 's fleet
 "Every country_i repels her_{i/j} fleet."
- (378) 每個人都體諒 [佢_{i/j}嘅處境]_{Inanimate NP}
 muigojan dou tai-loeng keoi ge cyuging
 everyone all considerate he 's position
 "Everyone_i is considerate towards him_{i/j} about his position."

Though forbidden in (379)-(383), co-indexation is allowed if the pronoun is embedded within an animate NP.

- (379) 小明好同情 [佢_{i/j}嘅朋友]_{k Animate NP}
 siuming hou tung-cing keoi ge pangjau
 Siuming very sympathize he 's friend
 "Siuming_i sympathizes with his_{i/j} friend_k."
- (380) 小明拒絕左 [佢_{i/j}嘅上司]_{k Animate NP}
 siuming keoi-zyut zo keoi ge soengsi
 Siuming refuse ASP he 's superior
 "Siuming_i has refused his_{i/j} superior_k."
- (381) 小明啓發左 [佢_{i/j}嘅同學]_{k Animate NP}

siuming kai-faat zo keoi ge tunghok
 Siuming enlighten ASP he 's classmate
 "Siuming_i has enlightened his_{i/j} classmate_k."

- (382) 美軍驅逐 [佢_{i/j}嘅敵人]_k Animate NP
 meigwan keoi-zuk keoi ge enemy
 US Army repel he 's enemy
 "The US Army_i repels his_{i/j} enemy_k."

- (383) 小強體諒 [佢_{i/j}嘅朋友]_k Animate NP
 sigoeng tai-loeng keoi ge pangjau
 Sigoeng considerate he 's friend
 "Sigoeng_i is considerate towards his_{i/j} friend_k."

Bound pronouns also exhibit the same distribution, as in (384) – (388).

- (384) 每個人都好同情 [佢_{i/j}嘅朋友]_k Animate NP
 muigojan dou hou tung-cing keoi ge pangjau
 everyone all very sympathize he 's friend
 "Everyone_i sympathizes with his_{i/j} friend_k."

- (385) 每個人都拒絕左 [佢_{i/j}嘅上司]_k Animate NP
 muigojan dou keoi-zyut zo keoi ge soengsi
 everyone all refuse ASP he 's superior
 "Everyone_i has refused his_{i/j} superior_k."

- (386) 每個人都啓發左 [佢_{i/j}嘅同學]_k Animate NP
 muigojan dou kai-faat zo keoi ge tunghok
 everyone all enlighten ASP he 's classmate
 "Everyone_i has enlightened his_{i/j} classmate_k."

- (387) 每個國家都驅逐 [佢_{i/j}嘅敵人]_k Animate NP
 muigo gwokgaa dou keoi-zuk keoi ge enemy
 every country all repel he 's enemy
 "Every country_i repels her_{i/j} enemy_k."

- (388) 每個人都體諒 [佢_{i/j}朋友]_k Animate NP

muigojan dou tai-loeng keoi ge pangjau
 everyone all considerate he 's friend
 "Everyone_i is considerate towards his_{i/j} friend_k."

What is more interesting is co-indexation associated with the pronoun becomes acceptable if it is embedded within another animate NP which in turn is the specifier of an inanimate NP.

- (389) 小明好同情 [[佢_{i/j}朋友]_k 嘅遭遇]_{Inanimate NP}
 siuming_i hou tung-cing keoi pangjau ge zoujyu
 Siuming very sympathize he friend 's misfortune
 "Siuming_i sympathizes with his_{i/j} friend_k in his misfortune."

- (390) 小明拒絕左 [[佢_{i/j}上司]_k 嘅要求]_{Inanimate NP}
 siuming keoi-zyut zo keoi soengsi ge jiukau
 Siuming refuse ASP he superior 's request
 "Siuming_i has refused his_{i/j} superior_k's request."

- (391) 小明啓發左 [[佢_{i/j}同學]_k 嘅思維]_{Inanimate NP}
 siuming kai-faat zo keoi tunghok ge siwai
 Siuming enlighten ASP he classmate 's thought
 "Siuming_i has enlightened his_{i/j} classmate_k."

- (392) 美軍驅逐 [[佢_{i/j}敵人]_k 嘅艦隊]_{Inanimate NP}
 meigwan keoi-zuk keoi dikjan ge laamdeoi
 US Army repel he enemy 's fleet
 "The US Army_i repels his_{i/j} enemy_k's fleet."

- (393) 小強體諒 [[佢_{i/j}朋友]_k 嘅處境]_{Inanimate NP}
 siukoeng tai-loeng keoi pangjau ge cyuging
 Siukoeng considerate he friend 's position
 "Siukoeng_i is considerate towards his_{i/j} friend_k about his position."

The same distribution is also observed for bound pronouns, as shown in (394) - (398).

- (394) 每個人都好同情 [[佢_{i/j}朋友]_k 嘅遭遇]_{Inanimate NP}
 muigojan dou hou tung-cing keoi pangjau ge zoujyu
 everyone all very sympathize he friend 's misfortune

"Everyone_i sympathizes with his_{i/j} friend_k in his misfortune."

- (395) 每個人都拒絕 [[佢_{i/j}上司]_k 嘅要求]_{Inanimate NP}

muigojan dou keoi-zyut zo keoi soengsi ge jiukau

everyone all refuse ASP he superior's request

"Everyone_i has refused his_{i/j} superior_k's request."

- (396) 每個人都啓發 [[佢_{i/j}同學]_k 嘅思維]_{Inanimate NP}

muigojan dou kai-faat zo keoi tunghok ge siwai

everyone all enlighten ASP he classmate's thought

"Everyone_i has enlightened his_{i/j} classmate_k."

- (397) 每個國家都驅逐 [[佢_{i/j}敵人]_k 嘅艦隊]_{Inanimate NP}

muigo gwokaa dou keoi-zuk keoi dikjan ge laamdeoi

every country all repel he enemy's fleet

"Every country_i repels her_{i/j} enemy_k's fleet."

- (398) 每個人都體諒 [[佢_{i/j}朋友]_k 嘅處境]_{Inanimate NP}

muigojan dou tai-loeng keoi pangjau ge cyuging

everyone all considerate he friend's position

"Everyone_i is considerate towards his_{i/j} friend_k about his position."

The binding facts above suggest this kind of verbs does not allow binding of object pronoun by subject.

5.5.1.2. Non-Anti-Reflexive verbs - do not constrain co-indexation

Other verbs like "誇大(kwaa-daai)", "發表(faat-biu)", "奉承(fung-sing)", "依賴(ji-laai)", "欣賞(jan-soeng)", "指揮(zi-fai)" and "埋葬(maai-zong)" would allow binding of the pronoun in the specifier position of the object NP. They can take either animate or inanimate NP objects or both.

- (399) 小明誇大 [佢_{i/j}嘅功勞]_{Inanimate NP}

siuming kwaa-daai keoi ge gunglou

Siuming exaggerate he's merit

"Siuming_i exaggerates his_{i/j} merit."

- (400) 小明發表 [佢嘅論文]_{Inanimate NP}
 siuming faat-biu keoi ge leonman
 Siuming publish he 's thesis
 "Siuming_i has his_{i/1} thesis published."
- (401) 小明奉承 [佢嘅上司]_{Inanimate NP}
 siuming fung-sing keoi ge soengsi
 Siuming fawn he 's superior
 "Siuming_i fawns on his_{i/1} superior."
- (402) 小明依賴 [佢嘅名聲]_{Inanimate NP}
 siuming ji-laai keoi ge mingsing
 Siuming rely he 's fame
 "Siuming_i relies on his_{i/1} fame."
- (403) 小明依賴 [佢嘅朋友]_{Inanimate NP}
 siuming ji-laai keoi ge pangjau
 Siuming rely he 's friend
 "Siuming_i relies on his_{i/1} friend."
- (404) 小明欣賞 [佢嘅朋友]_{Inanimate NP}
 siuming jan-soeng keoi ge pangjau
 Siuming appreciate he 's friend
 "Siuming_i appreciates his_{i/1} friend."
- (405) 小明欣賞 [佢嘅朋友嘅態度]_{Inanimate NP}
 siuming jan-soeng keoi pangjau ge taaidou
 Siuming appreciate he friend 's attitude
 "Siuming_i appreciates his_{i/1} friend's attitude."
- (406) 小明將軍指揮 [佢嘅艦隊]_{Inanimate NP}
 siuming zoenggwan zi-fai keoi ge laamdeoi
 Siuming general command he 's fleet
 "General Siuming_i commands his_{i/1} fleet."

(407) 小明將軍指揮 [佢嘅士兵] Inanimate NP
 siuming zoenggwan zi-fai keoi ge sibing
 Siuming general command he's soldiers
 "General Siuming_i commands his_{i/j} soldiers."

(408) 小明埋葬左 [佢嘅理想] Inanimate NP
 siuming maai-zong zo keoi ge leisoeng
 Siuming bury ASP he's ideal
 "Siuming_i has his_{i/j} ideals buried."

(409) 小明埋葬左 [佢阿爺] Inanimate NP
 siuming maai-zong zo keoi aaje
 Siuming bury ASP he grandfather
 "Siuming_i has buried his_{i/j} grandfather."

5.5.1.3. *Verbs that favour coindexation between matrix and embedded clause subject*

Verbs beginning with the prefix "自(zi)" often favour pronominal binding by a subject NP.

(410) 小新自認佢係全世界最聰明嘅人
 siusan zi-jing keoi hai cyun saigaai zeoi cungming ge jan
 Siusan confess he is whole world most clever's person
 "Siusan_i confesses he_{i/j} is the most clever person in the world."

(411) 有人自認佢係全世界最聰明嘅人
 jaujan zi-jing keoi hai cyun saigaai zeoi cungming ge jan
 someone confess he is whole world most clever's person
 "Someone_i confesses he_{i/j} is the most clever person in the world."

(412) 小新自稱佢係哩度嘅負責人
 siusan zi-can keoi haa ledou ge fuzaak jan
 Siusan profess he is here's in-charge person
 "Siusan_i professes he_{i/j} is the person in charge of here."

- (413) 有人_i自稱佢_i係哩度嘅負責人
 jaujan zi-can keoi haa ledok ge fuzaak jan
 someone profess he is here 's in-charge person
 "Someone_i professes he_i is the person in charge of here."
- (414) 小新_i自辯佢_i係無辜嘅
 siusan zi-bin keoi haa mougu ge
 Siusan defend he is innocent Mkr
 "Siusan_i defends that he_i is innocent."
- (415) 每個疑犯_i都自辯佢_i係無辜嘅
 muigo jifaa dou zi-bin keoi haa mougu ge
 every suspect all defend he is innocent Mkr
 "Every suspect_i defends that he_i is innocent."

5.5.2. *Quantifier types and the size of the extension denoted by the QP*

It is reported in Aoun & Hornstein (1985) that quantifiers can be classified into three types (Type I, II and III) according to their scopes and principles, i.e., ECP, they are subject to. Type I quantifiers like, "everyone", "someone", etc. are subject to ECP and are generally clause-bound. Type II quantifiers include wh-in-situ and obey ECP and those like "any", "anyone", etc. fall under the scope of Type III quantifiers and do not obey ECP. Details of the mechanism governing these three types of quantifiers will not be covered since they are beyond the scope of this thesis. Despite this, Aoun & Hornstein's insight into quantifier types does confirm different types of quantifiers do exhibit different syntactic behaviour. Differences in syntactic behaviour of quantifiers can also be observed in this thesis - existential and universal quantifiers produce different effects on binding of pronominals though they both undergo quantifier raising (QR) at LF. For example the existentially quantified NP "有人(jaujan)" implies there is one or at least one person involved while the universally quantified NP "每個人(muigojan)" suggests all people are involved. It is this difference that leads to the difference in acceptability between sentences with universal quantifiers and those with existential quantifiers.

(416a) 每個人都話美國總統邀請佢_{i/j}

muigojan dou waa meigwok zungtung jiu-ceng keoi
everyone all say USA president invite he
"Everyone_i says the president of USA offers him_{i/j} an invitation."

(416b) 有人話美國總統邀請佢_{i/j}

janjan waa meigwok zungtung jiu-ceng keoi
Someone say USA president invite he
"Someone_i says the president of USA offers him_{i/j} an invitation."

(417a) 每個人都高過佢_{i/j}阿媽

muigojan dou gougwo keoi aamaa
everyone all taller he mother
"Everyone_i is taller than his_{i/j} mother."

(417b) 有人高過佢_{i/j}阿媽

muigojan dou gougwo keoi aamaa
everyone all taller he mother
"Everyone_i is taller than his_{i/j} mother."

(418a) 每個人都聲稱佢_{i/j}係兇手

muigojan dou sing-cing keoi haa hungsau
everyone all profess he is murderer
"Everyone_i professes he_{i/j} is the murderer."

(418b) 有人聲稱佢_{i/j}係兇手

jaujan sing-cing keoi ha hungsau
someone profess he is murderer
"Someone_i professes he_{i/j} is the murderer."

To some speakers, sentences(a) are found to be less acceptable than their counterparts sentences(b). Since both (a) and (b) share the same syntactic structure, the difference in acceptability cannot be explained on syntactic grounds. Instead, we can make use of predicate logic to help solve this problem. The universally quantified NP has all entities satisfying the description of the noun head as its extension. The extension of the existentially quantified

NP, however, may contain only one element. This difference renders different truth condition on sentences (a) and (b), where the one for (b) is much more easier to fulfill – since only one entity satisfying the description of the noun head is required. Those who regard (a) less acceptable, relative to (b), may have difficulties in thinking of a situation where the truth condition of (a) can be fulfilled.

To sum up, we can arrange the quantifiers in a hierarchy with the topmost one having the greatest extension and weakest tendency to observe Bound Pronoun Condition.

Extension Hierarchy of Quantifiers

- (a) Universal Quantifiers (e.g. 每個人(muigojan), etc.)
- (b) Numerical Quantifiers (e.g. 一個人(jatgojan), etc.)
- (c) Existential Quantifiers (e.g. 有人(jaujan), etc.)

Differences in acceptability between sentences involving different types of quantifiers can then be explained by Bound Pronoun Condition incorporating with this hierarchy.

In addition to the nature of the quantifiers, nature of noun phrases also affect the acceptability of sentences.

- (419a) 每個人都努力經營佢嘅選區

muigojan dou noulik ging-jing keoi ge syunkeoi
 everyone all endeavour manage he 's election-district
 "Everyone_i endeavours to seek an election in his_i election district."

- (419b) 每個候選人i都努力經營佢嘅選區

muigo hausyunjan dou noulik ging-jing keoi ge syunkeoi
 every candidate all endeavour manage he 's election-district
 "Every candidate_i endeavours to seek an election in his_i election district."

- (420a) 每個人都感到佢嘅生命隨時會受到威脅

muigojan dou gamdou keoi ge saangmeng ceoisi wui saudou wai-hip
 everyone all feel he 's life all-the-times would be threat

"Everyone_i feels that his_{i/vj} life would be threaten all the times."

- (420b) 每個警察都感到佢_{i/vj}嘅生命隨時會受到威脅

muigo gingcaat dou gamdou keoi ge saangmeng ceoisi wui saudou wai-hip
every policeman all feel he 's life all-the-times would be threat
"Every policeman_i feels that his_{i/vj} life would be threaten all the times."

- (421a) 每個人都裁減佢_{i/vj}嘅人手

muigojan dou coi-gaam keoi ge jansau
everyone all cut-down he 's workforce
"Everyone_i cuts down his_{i/vj} number of workforce."

- (421b) 每個老闆都裁減佢_{i/vj}嘅人手

muigo loubaan dou coi-gaam keoi ge jansau
every boss all cut-down he 's workforce
"Every boss_i cuts down his_{i/vj} number of workforce."

- (422a) 每個人都期望航空公司增加佢_{i/vj}嘅房屋津貼

muigojan dou gei-mong honghung gungsi zang-gaa keoi ge fontuk zeontip
everyone all expect airlines company increase he 's house allowance
"Everyone_i expects the airlines company increases his_{i/vj} housing allowance."

- (422b) 每個機師都期望航空公司增加佢_{i/vj}嘅房屋津貼

muigo geisi dou gei-mong honghung gungsi zang-gaa keoi ge fontuk zeontip
every pilot all expect airlines company increase he 's house allowance
"Every pilot_i expects the airlines company increases his_{i/vj} housing allowance."

- (423a) 所有人都希望和諧之家幫到佢_{i/vj}

sojaujan duo hei-mong wohaaizigaa bongdou keoi
all-the-people all hope woman-protection-association help she
"All the people_i hope the association of woman protection can help her_{i/vj}."

- (423b) 所有被虐嘅婦女都希望和諧之家幫到佢_{i/vj}

sojau bei joek ge fuleoi duo hei-mong wohaaizigaa bongdou keoi
all be abuse 's woman all hope woman-protection-association help she

“All the abused woman_i hope the association of woman protection can help her_{i/j}.”

(424a) 每個人都明白佢_{i/j}嘅生命已經到左盡頭

muigojan dou mingbaak keoi ge saangmeng jiging dou zo zeontau
everyone all understand he 's life already reach ASP end
“Everyone_i understands his_{i/j} life has reached an end.”

(424b) 每個垂死嘅士兵_i都明白佢_{i/j}嘅生命已經到左盡頭

muigo seoisei ge siping dou mingbaak keoi ge saangmeng jiging dou zo zeontau
every dying 's soldier all understand he 's life already reach ASP end
“Every dying soldier_i understands his_{i/j} life has reached an end.”

In sentences (419)-(424) above, sentences (b) are more acceptable than (a). The only difference between (a) and (b) lies in the quantified subject NPs. The noun head in subject NPs in (a) is “人(jan)” which is a superset of noun heads in (b), e.g. “人(jan)” is the superset of “士兵(shibing)”. In addition to this, restrictive modifiers are used in some of sentences (b). It is these modifiers which further reduce the size of the extension of the subject NP. Therefore, the extension of subject NPs in (b) is always the subset of that in (a). Taking (424b) as an example, it is usual to assume all the dying soldiers have come to the end of their life. On the contrary, “每個人(muigojan)” in (424a) can refer to some people other than “士兵(shibing)” since its extension is the superset of the latter. As the entities being referred to may not be dying, the truth condition of (424a) is not fulfilled. Speakers who regard (b) as more acceptable than (a) may be affected by this false proposition and reject the bound pronoun reading.

5.5.3. Sentence types & the number feature of the quantified NPs

It seems that bound pronoun reading is more accessible when the QPs, i.e., “每個人(muigojan)”, “所有人(sojaujan)”, etc., are used to address some states or belief. In this case the sentence does not describe the past experience but expresses the possibilities or likelihood of the phenomenon being mentioned. Very often, a modal verb is used. The presence of modals would make the reading more accessible. The same observation is made in Aoun & Hornstein (1991), Aoun & Li (1990) and Aoun & Li (1993). However, their focus is on the presence of modals which they claim is a potential A'-binder. According to

them, it is this potential A'-binder which serves as the most local A'-binder and shields the pronoun from being A'-bound by the most local A'-binder in the smallest CFC containing the pronoun and a SUBJECT.

In (425)-(430), with the use of modals, the intended reading in sentences (b) are far more accessible than those in sentences(a).

(425a) 每個人都好滿意佢嘅外表

muigojan dou hou mun-ji keoi ge ngoibiu
everyone all very satisfy he 's appearance
"Everyone_i are very satisfied with his_i appearance."

(425b) 每個人都應該好滿意佢嘅外表

muigojan dou jinggoi hou mun-ji keoi ge ngoibiu
everyone all should very satisfy he 's appearance
"Everyone_i should be very satisfied with his_i appearance."

(426a) 每個人都體諒佢嘅朋友

muigojan dou tai-loeng keoi ge pangjau
everyone all considerate he 's friend
"Everyone_i is considerate towards his_i friends."

(426b) 每個人都應該體諒佢嘅朋友

muigojan dou jinggoi tai-loeng keoi ge pangjau
everyone all should considerate he 's friend
"Everyone_i should be considerate towards his_i friends."

(427a) 每個人都背叛佢嘅朋友

muigojan dou bui-bun keoi ge pangjau
everyone all betray he 's friend
"Everyone_i betrays his_i friend."

(427b) 每個人都唔應該背叛佢嘅朋友

muigojan dou m jinggoi bui-bun keoi ge pangjau
everyone all no should betray he 's friend
"Everyone_i should no betray his_i friend."

(428a) 每個人都欺騙佢嘅媽媽

muigojan dou hei-pin keoi ge maamaa
everyone all cheat he 's mother
"Everyone_i cheats his_i mother."

(428b) 每個人都唔應該欺騙佢嘅媽媽

muigojan dou m jinggoi hei-pin keoi ge maamaa
everyone all no should cheat he 's mother
"Everyone_i should not cheat his_i mother."

(429a) 每個人都明白佢係公司嘅職務

muigojan dou ming-baak keoi hai gungsi ge zikmou
everyone all understand he in company 's duty
"Everyone_i understands his_i duty in the company."

(429b) 每個人都應該明白佢係公司嘅職務

muigojan dou jinggoi ming-baak keoi hai gungsi ge zikmou
everyone all should understand he in company 's duty
"Everyone_i should understand his_i duty in the company."

(430a) 每個人都認識佢係社會上嘅義務同權利

muigojan dou jing-sik keoi hai sewui soeng ge jimou tung kyunlei
everyone all know he in society aspect 's duty and rights
"Everyone_i knows his_i duties and rights in society."

(430b) 每個人都應該認識佢係社會上嘅義務同權利

muigojan dou jinggoi jing-sik keoi hai sewui soeng ge jimou tung kyunlei
everyone all should know he in society aspect 's duty and rights
"Everyone_i should know his_i duties and rights in society."

While it is true that the presence of the modal is paired with the increased acceptability of a sentence, it is highly arguable that its presence is the ultimate factor contributing to the improvement of a sentence. We should not lose sight of the type and nature of a sentence containing the pronoun. In the above sentence pairs, sentences(b) express the likelihood or beliefs of the speaker of the sentence. The main function of modals here is to show the phenomenon

under discussion is not a fact but a belief. Sentences(a), unlike (b) describe a fact. Obviously, it is much more natural to express a belief that everyone should do this or that than to state a fact that everyone has done something. The difference in acceptability between sentences (a) and (b) is due to semantics rather than syntax as proposed by Aoun & Li and Aoun & Hornstein.

Conclusion

In this thesis, we have gone through selected proposals on bound pronouns. In order to evaluate their adequacies and uncover the binding mechanisms for Cantonese bound pronouns, specifically pronominal binding, 10 different sentence patterns are examined and a survey on native speakers' judgement on bound pronoun reading has been conducted. Successfully unveiling the weakness of the theories under consideration, the binding facts points out that the distribution of referential pronouns and bound pronouns are very similar. To over the drawback of the theories reviewed, a binding condition for Chinese bound pronouns is hence proposed. The condition proposed, in comparison with those proposed in other theories, can handle both ordinary quantified noun phrases and wh-phrases. It is believed that the syntactic constraint on bound pronoun distribution is not as rigid as those put forwarded in other proposals. For this reason, the Bound Pronoun Condition is augmented with an *Extension Hierarchy of Quantifiers* which can describe how well a particular type of quantifiers adhere to the condition.

Also, a number of factors influencing binding of pronominals have been examined and discussed. Since binding is a process which involves not only syntax, but also semantics, pragmatics, etc., special attention should be given to cases in which additional factors other than syntax play a role. It is believed that no context is neutral and a clear picture of binding mechanism can only be obtained if all factors are taken into consideration. While this thesis is devoted to the study of syntactic constraints on binding, other factors such as nature of verbs, which play an important role in binding are also touched. The findings and discussion suggest only constraints combining syntax, semantics, pragmatics, etc. can describe and explain the binding behaviour of bound pronouns. Relying on constraints on just one field would only lead to either undergeneration or overgeneration, as we have seen in the proposals reviewed.

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Appendix I

Definition of Indexing (Chomsky, 1986)

I is BT-compatible with (α, β) if:

- (A) α is an anaphor and is bound in β under I*
- (B) α is a pronominal and is free in β under I*
- (C) α is an r-expression and is free in β under I*

Where β is the local domain under indexing I.

Licensing Condition

Licensing Condition for a category α governed by a lexical category γ in the expression E with indexing I.

For some β such that (i) or (ii), I is BT-compatible with (α, β) :

- (i) α is an r-expression and (a) if α head of its chain or (b) otherwise*
 - (a) $\beta = E$*
 - (b) β is the domain of the head of the chain of α*
- (ii) α is an anaphor or pronominal and β is the least CFC containing γ for which there is an indexing J BT-compatible with (α, β) .*

Appendix II

Survey Results for bound pronoun reading in Patterns A, B, C and D

Keys	Description
Total	Total number of subjects giving their judgement
Bound	Number of subjects getting the bound pronoun reading
UnBound	Number of subjects getting the unbound pronoun reading
Rule Out	Number of subjects considering the sentence concerned ungrammatical
Correct	Number of subjects considering the sentence concerned grammatical
Approval Rate	(Bound / Total) * 100%

Pattern A(1) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
91	16	0	16	0	16	0
92	16	1	15	0	16	6.25
93	16	0	15	1	15	0
94	16	0	14	2	14	0
95	16	0	15	1	15	0
96	16	1	14	1	15	6.66666667

Pattern A(2) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
109	15	8	7	0	15	53.33333333
110	15	8	7	0	15	53.33333333
111	15	11	3	1	14	78.57142857
112	15	8	5	2	13	61.53846154
113	15	12	3	0	15	80
114	15	10	3	2	13	76.92307692
115	15	3	6	6	9	33.33333333
116	15	11	2	2	13	84.61538462
117	15	14	1	0	15	93.33333333
118	15	13	2	0	15	86.66666667

Pattern B(1) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
133	22	21	0	1	21	100
134	22	21	1	0	22	95.45454545
135	27	16	8	3	24	66.66666667
136	27	16	9	2	25	64
137	27	12	11	4	23	52.17391304
138	22	12	8	2	20	60
139	22	13	9	0	22	59.09090909
140	22	12	8	2	20	60
141	27	15	9	3	24	62.5
142	22	13	8	1	21	61.9047619

Pattern B(2) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
157	15	9	6	0	15	60
158	15	9	3	3	12	75
159	15	6	2	7	8	75
160	15	8	5	2	13	61.53846154
161	15	7	4	4	11	63.63636364
162	15	12	3	0	15	80
163	15	11	2	2	13	84.61538462
164	15	7	5	3	12	58.33333333
165	15	7	6	2	13	53.84615385
166	15	13	2	0	15	86.66666667

Pattern B(3) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
179	15	8	6	1	14	57.14285714
180	15	12	3	0	15	80
181	15	15	0	0	15	100
182	15	11	4	0	15	73.33333333
183	15	4	11	0	15	26.66666667
184	15	4	9	2	13	30.76923077
185	15	9	6	0	15	60
186	15	8	6	1	14	57.14285714
187	15	13	1	1	14	92.85714286
188	15	12	2	1	14	85.71428571

Pattern B(4) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
201	16	8	6	2	14	57.14285714
202	16	13	2	1	15	86.66666667
203	16	14	2	0	16	87.5
204	16	11	4	1	15	73.33333333
205	16	10	6	0	16	62.5
206	16	8	7	1	15	53.33333333
207	16	8	6	2	14	57.14285714
208	16	6	5	5	11	54.54545455
209	16	14	0	2	14	100
210	16	8	6	2	14	57.14285714

Pattern C(1) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
221	17	13	2	2	15	86.66666667
222	17	11	5	1	16	68.75
223	17	16	1	0	17	94.11764706
224	17	11	5	1	16	68.75
225	17	10	6	1	16	62.5
226	17	17	0	0	17	100
227	17	14	3	0	17	82.35294118
228	17	11	4	2	15	73.33333333
229	17	12	3	2	15	80
230	17	14	1	2	15	93.33333333

Pattern C(2) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
246	16	13	3	0	16	81.25
247	16	12	2	2	14	85.71428571
248	16	12	3	1	15	80
249	16	10	4	2	14	71.42857143
250	16	16	0	0	16	100
251	16	15	1	0	16	93.75
252	16	8	5	3	13	61.53846154
253	16	15	0	1	15	100
254	16	13	2	1	15	86.66666667
255	16	11	3	2	14	78.57142857
256	16	10	4	2	14	71.42857143
257	16	7	6	3	13	53.84615385
258	16	8	6	2	14	57.14285714
259	16	11	4	1	15	73.33333333
260	16	8	5	3	13	61.53846154

Pattern D(1) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
271	17	8	6	3	14	57.14285714
272	17	14	3	0	17	82.35294118
273	17	11	6	0	17	64.70588235
274	17	11	6	0	17	64.70588235
275	17	11	4	2	15	73.33333333
276	17	10	5	2	15	66.66666667
277	17	3	10	4	13	23.07692308
278	17	9	7	1	16	56.25
279	17	8	4	5	12	66.66666667
280	17	11	4	2	15	73.33333333

Pattern D(2) - B

Sentences	Total	Bound	UnBound	Rule Out	Correct	Approval Rate(%)
291	18	7	10	1	17	41.17647059
292	18	9	7	2	16	56.25
293	18	9	7	2	16	56.25
294	18	8	6	4	14	57.14285714
295	18	12	6	0	18	66.66666667
296	18	10	7	1	17	58.82352941
297	18	10	6	2	16	62.5
298	18	12	5	1	17	70.58823529
299	18	7	7	4	14	50
300	18	10	2	6	12	83.33333333

Appendix III

The sample of the questionnaire

現在我們正進行一個有關《中文代名詞》的研究。爲了能更準確地了解它的特性，我們誠意邀請您爲它的使用提供意見。在這份問卷內，研究員關心的是《中文代名詞》- “佢”的指向。

請指出”佢”是否可以指向劃有底線的句語。

若您認爲有關句子不正確，請在句子前寫上”X”。

多謝您抽空回答本問卷。

例子1:

Y “張三 話小明打佢。”

如果您認爲”佢”可以指”張三”，請如指示在句子前寫上”Y”。

例子2:

N “張三 話小明打佢。”

如果您認爲”佢”並不可以指”張三”，請如指示在句子前寫上”N”。

例子 3:

X “佢好打劫。”

若果您認爲有關句子不正確，請在句子前劃上”X”。

Pattern A(1) - B

- (91) 每個人 都鐘意佢
- (92) 每個人 都討厭佢
- (93) 每個人 都明白佢
- (94) 每個人 都識佢
- (95) 每個人 都欺騙佢
- (96) 每個人 都相信佢

Pattern A(2) – B

- (109) 每個新業主 都滿意佢間屋嘅裝修
- (110) 每個罪犯 都討厭佢以前做嘅一切
- (111) 每個道友 都出賣左佢嘅朋友
- (112) 每個賭鬼 都變賣左佢間屋
- (113) 每個逃亡者 都刻意隱瞞佢嘅身世
- (114) 每個懶學生 都怕佢老師
- (115) 有個學生 仰慕佢老師
- (116) 每個善變者 都改變佢嘅決定
- (117) 每個人 都愛護佢嘅爸爸
- (118) 每個偉大哲學家 都遇到佢嘅啓蒙老師

Pattern B(1) – B

- (133) 一個將軍 公佈佢已經成功控制首都秩序
- (134) 一個中年男人 承認佢係琴日劫案嘅主謀
- (135) 每個警察 都知道佢堅負住重大嘅責任
- (136) 每個準業主 都講比朋友聽佢買到樓
- (137) 每個會考生 都希望佢可以順利升上中六
- (138) 每個推銷員 都同小新講佢已經盡左一切嘅努力為公司爭取最大嘅利益
- (139) 每個文員 都透露佢討厭黃經理
- (140) 每個香港人 都話佢鐘意錢
- (141) 每個參戰國 都辯稱佢係為公義而戰
- (142) 每個成功逃難者 都相信佢比戰爭中的戰俘更幸運

Pattern B(2) – B

- (157) 每個參賽者 都承認佢嘅設計比小明差
- (158) 每個候選人 都明白佢嘅才能比美國總統克林頓差
- (159) 一位董事 講比小新 聽佢 嘅計劃已經失敗
- (160) 每個計劃草擬人 都同小新 講佢 嘅計劃已經將公司嘅利潤推到最高
- (161) 每個競選落敗者 都知道佢嘅內閣落選左
- (162) 每個人 都希望佢嘅夢想成真
- (163) 每個人 都相信佢嘅考試成績對前途有影響
- (164) 每個人 都埋怨佢嘅利益係今次金融風暴裏被忽視
- (165) 每個人 都深知佢間舖全年嘅利潤完全取決於假期嘅營業額
- (166) 每個人 都希望佢嘅作品有人欣賞

Pattern B(3) – B

- (179) 每個人 都希望小強 明白佢
- (180) 每個作家 都希望其他人 欣賞佢
- (181) 每個車牌考生 都擔心考牌官 肥佢
- (182) 每個炒輸股票嘅人 都埋怨政府 係今次金融風暴裏忽視佢
- (183) 每個生意人 都知哩盤生意嘅成敗 完全取決於佢
- (184) 每個同事 都知道小強 討厭佢
- (185) 每個新同事 都透露黃經理 排斥佢
- (186) 有人 預料陳先生 提升佢
- (187) 每個北約盟國首腦 都公佈美國總統 邀請佢
- (188) 每個內閣成員 都公佈首相 支持佢

Pattern B(4) – B

- (201) 每個人 都希望小強 明白佢 嘅苦心
- (202) 每個畫家 都希望其他人 欣賞佢 嘅作品
- (203) 每個漁民 都擔心海盜 搶走佢 嘅錢同船
- (204) 每個投資失敗嘅人 都埋怨政府 係今次金融風暴裏忽視佢 嘅利益
- (205) 每個人 都懷疑小強 暗算佢 阿哥
- (206) 每個內閣成員 都知道總統 支持佢 嘅決定
- (207) 每個保守黨黨員 都猜測貝理雅 反對佢 嘅動議
- (208) 每個內閣成員 都透露小強 妒忌佢 嘅成功
- (209) 一個中年男子 承認兇手 係佢 細佬
- (210) 每個內閣成員 都估計李參議員 想離開佢 嘅陣營

Pattern C(1) - B

- (221) 每個乖學生 嘅老師都痛錫佢
- (222) 每個高材生 嘅同學都欣賞佢
- (223) 每個失業者 嘅家人都支持佢
- (224) 每個二伍仔 嘅兄弟都追殺佢
- (225) 每個道友 嘅家人都放棄佢
- (226) 每個孩子 嘅父母都痛錫佢
- (227) 每個9優生 嘅學校都表揚佢
- (228) 每個強者 嘅失敗經驗都磨鍊緊佢
- (229) 每個迷信者 嘅直覺都誤導左佢
- (230) 每個獨裁者 嘅野心都摧毀左佢

Pattern C(2) - B

- (246) 每個人 嘅童年 都影響住佢 嘅性格
- (247) 每個人 嘅命運 都取決於佢 嘅性格
- (248) 每個人 嘅信念 都捍衛住佢 嘅理想
- (249) 每個打工仔 嘅精神 都放左係佢 嘅工作上
- (250) 每個人 嘅身體都遺傳左佢 父母部份嘅特徵
- (251) 每個人 嘅說話都反映佢 嘅思想
- (252) 每個人 嘅經歷都模造佢嘅思想
- (253) 每個參選者 嘅政綱 都表揚著佢 嘅往績
- (254) 每個作家 嘅著作 都源於佢 嘅生活體驗
- (255) 每個野心家 嘅著作 都宣傳著佢 嘅歪理
- (256) 每個人 嘅父親 都影響住佢 嘅性格
- (257) 每個人 嘅朋友 都捍衛住佢 嘅理想
- (258) 每個人 嘅哥哥 都遺傳左佢 父母部份嘅特徵
- (259) 每個參選者 嘅支持者 都表揚著佢 嘅往績
- (260) 每個野心家 嘅部下 都宣傳著佢 嘅歪理

Pattern D(1) – B

- (271) 每個孩子 嘅父親 都認為佢 年少時無知
- (272) 每個消防員 嘅老婆 都希望佢 平安無事
- (273) 每個警察 嘅家人 都知佢 責任重大
- (274) 每個意外失蹤者 嘅家屬 都認為佢 好不幸
- (275) 每個勤奮會考生 嘅爸爸 都相信佢 已經盡左力
- (276) 每個獨裁者 嘅下屬 都話佢 脾氣暴躁
- (277) 每個善良人 嘅朋友 都知道佢 鐘意細路
- (278) 每個天才兒童 嘅老師 都話佢 聰明過人
- (279) 每個被告 嘅辯護律師 都否認佢 犯過罪
- (280) 一個科學家 嘅研究報告 指出佢 已經發明出複製人類的方法

Pattern D(2) - B

- (291) 每個孩子 嘅父親 都認為不良漫畫影響左佢
- (292) 每個消防員 嘅老婆 都希望哩串佛珠保佑佢
- (293) 每個疑犯 嘅家人 都知道警察查緊佢
- (294) 每個意外失蹤者 嘅家屬都 害怕算大海帶走佢
- (295) 每個考車牌嘅人 嘅屋企人 都擔心考牌官刁難佢
- (296) 每個道友 嘅家人 都話隔離屋討厭佢
- (297) 一個議員 嘅告密信 指出反對黨試圖暗殺佢
- (298) 一個參選者 嘅民意調查 顯示對手已經拋離佢
- (299) 每個恐怖份子 嘅情報 證實美軍正在監察佢
- (300) 每個議員 嘅高支持度 都反映左市民普遍滿意佢

¹ Since Minimal Disjointness Requirements proposed by Aoun & Li and Aoun & Hornstein mainly focuses on Chinese pronominal bindings, special attention will be paid to evaluate their claims.

² Under the definition of bound pronouns discussed in 1.3., bound pronoun reading is thought to be the instance of A'-binding.

³ Anaphoric indices are shown inside brackets in Higginbotham(1980). For example, the pronoun $he_{i(j)}$, has the index i as its referential index while j as its anaphoric index.

⁴ As illustrated in the s-structure (16'), Bill has a referential index of 3 and an anaphoric index of 2 and the pronoun, "him" is not c-commanded by any NP with the anaphoric index of 2 in the minimal domain containing it.

⁵ This condition is named Leftness Condition by Higginbotham(1980) and is initially proposed in Chomsky(1976).

⁶ To most Chinese, "Shei (Who)" cannot be coindexed with "ta (he)". The same judgement is reported in Xu(1986).

⁷ Reinhart does not make any distinction between A-bound and A'-bound pronoun. Bound pronouns, under his theory can refer to either A-bound or A'-bound one.

⁸ By R-pronoun, Reinhart means reflexive.

⁹ As seen in the definition, the only requirement to be a variable is locally A'-bound and there is no restriction on whether a variable should be A bound or not though Koopman & Sportiche(1982, 148) does mention a locally A-bound wh-trace cannot be a variable.

¹⁰ There are some problems associating with their judgement. We will come back to this issue in Chapter IV.

¹¹ Here we have example sentences in Cantonese and the romanization scheme employed is JyutPing put forward by Linguistic Society of Hong Kong. The asterisk, "*" and the question mark, "?" indicates the intended reading is not allowed and marginally acceptable respectively.

¹² A survey on Cantonese native speakers' judgement on the bound pronoun reading of sentences is conducted. The results for each pattern is documented in the Appendix II

¹³ Below are the explanation for the abbreviations.

ClsR - Classifier

Mkr - Grammatical Marker

ASP - Aspect

¹⁴ This differs from Chomsky(1986) where a pronoun can be its own subject.

¹⁵ Sentences (329) and (330) are shown with relevant indexation proposed by Aoun and Li.

¹⁶ For the definition of indexing in Chomsky(1986), please refer to the Appendix I.

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